Appendices

Appendix 1
Pollution Prevention Advisory Committee Recommendations and Position Papers

Mr. Winston H. Hickox
Agency Secretary
California Environmental Protection Agency
555 Capitol Mall, Suite 525
Sacramento, CA 95814

November 14, 2000

Dear Mr. Hickox,

The Department of Toxic Substances Control's (DTSC) Pollution Prevention Advisory Committee (Advisory Committee), established via SB 1916 of 1998, is pleased that the California Environmental Protection Agency's (Cal/EPA) "Strategic Vision" (July 2000) includes statements concerning the value and need for the agency to include pollution prevention in its approach. A list of Advisory Committee members is attached.

As you know, preventing pollution means reducing or eliminating pollution at the source, as opposed to managing pollutants after they are generated. Pollution prevention is the preferred environmental strategy for businesses and for environmental regulatory agencies, since it is both cost-effective and provides superior environmental benefits.

We understand that Cal/EPA's boards, departments and offices (BDOS) are currently crafting their strategic plans, which will support the values outlined in the strategic vision. The public members of the Advisory Committee would like to take this opportunity to recommend that Cal/EPA and the BDOS integrate pollution prevention into their strategic plans. The Advisory Committee believes that such integration will provide a firm foundation for increasing the agency's use of pollution prevention as the most effective tool for protecting California's environment.

Sincerely,

Kelly Moran, Chair
Pollution Prevention
Advisory Committee
Sierra Club

Stewart Crook, Vice-Chair
Pollution Prevention
Advisory Committee
Agilent Technologies Inc.

cc: Cal/EPA BDO directors and executive officers

Pollution Prevention Advisory Committee members

Winston H. Hickox
Agency Secretary,
Cal/EPA

State of California
California Environmental Protection Agency

KB

Gray Davis
Governor

MEMORANDUM

TO: Board Chairs
Department Directors
Executive Officers

FROM: C. Brian Haddix
Undersecretary

DATE: July 27, 2001

SUBJECT: POLLUTION PREVENTION AND STRATEGIC PLANNING

Preventing pollution is an excellent environmental protection strategy–one that protects our environment by reducing or eliminating our dependence on specific chemicals known to cause environmental pollution. For years the California Environmental Protection Agency (Cal/EPA) has prized pollution prevention as one of its essential environmental tools in its fight to protect California's quality of life. To further the benefits of pollution prevention, this agency's *Strategic Vision* encourages and supports the integration of pollution prevention strategies into the mainstream of its permitting and regulatory process.

In November 2000, the Department of Toxic Substances Control's Pollution Prevention Advisory Committee (Advisory Committee) wrote to Secretary Hickox commending Cal/EPA for acknowledging the value and importance of pollution prevention. In that letter, the Advisory Committee suggested that each organization specifically incorporate pollution prevention into its strategic plan.

Secretary Hickox and I wholeheartedly agree with the Advisory Committee's suggestion. We consider the development of your strategic plan as an ideal opportunity to emphasize pollution preventive approaches that you are undertaking. If we are to achieve our core mission of Cal/EPA: "to restore, protect and enhance the environment, to ensure public health, environmental quality and economic vitality," then I need you to ensure that pollution prevention strategies are identified in your strategic plan. I am convinced that vigorous implementation of pollution prevention approaches will strengthen Cal/EPA's ability to fulfill its vision and goals.

If you have any questions, please contact Mr. Steven Monk, Special Assistant, Cal/EPA, at (916) 323-5235.

cc: Cal/EPA Strategic Vision Implementation Team members

1001 I Street | Sacramento, CA 95814
phone: 916.445.3846 | fax: 916.445.6401

Winston H. Hickox
Agency Secretary,
Cal/EPA

State of California
California Environmental Protection Agency

Gray Davis
Governor

Air Resources Board | Department of Pesticide Regulation | Department of Toxic Substances Control
Integrated Waste Management Board | Office of Environmental Health Hazard Assessment | State Water Resources Control Board | Regional Water Quality Control Boar

June 14, 2001

Ms. Ann Heil
Los Angeles County Sanitation Districts
1955 Workman Mill Road
Whittier, California 90601

Dear Ms. Heil:

Thank you for your correspondence regarding the value of preventive approaches for environmental protection. I could not agree with you more. Preventing pollution is a superior environmental protection strategy to managing, regulating, and mitigating environmental pollution. Pollution prevention is an essential function of the California Environmental Protection Agency (Cal/EPA). Our boards, departments, and office (BDOs) have long included pollution prevention strategies in their environmental protection "tool boxes."

I appreciate your commendation of our efforts to reflect in the Cal/EPA Strategic Vision the value and importance of pollution prevention as part of California's environmental protection approach. The Strategic Vision strongly encourages pollution prevention efforts, supporting the "integration of pollution prevention strategies into the mainstream of the permitting and the regulatory process." I also appreciate your suggestion that the BDOs specifically support pollution prevention in their respective strategic plans. As a member of the Department of Toxic Substances Control's (DTSC) Pollution Prevention Advisory Committee, you have learned about some of the preventive activities occurring within Cal/EPA. I wholeheartedly agree with your suggestion that the development of the strategic plans provides an ideal opportunity to emphasize the preventive approaches that are being undertaken.

Accordingly, I have assigned Mr. C. Brian Haddix, Undersecretary of Cal/EPA, to work with the BDOs to ensure that those elements in their strategic plans that are preventive be clearly identified in order to make these activities more visible within the strategic planning process currently underway. Mr. Haddix is lead on the Cal/EPA Strategic Vision Implementation Team (Team), which consists of staff from each BDO. The purpose of the Team is to ensure that the BDO strategic plans are consistent with the objectives and management strategies outlined in the Strategic Vision. Mr. Haddix is working with staff from DTSC's pollution prevention program to help the BDOs identify

1001 I Street | Sacramento, CA 95814
phone: 916.445.3846 | fax: 916.445.6401
www.calepa.ca.gov

the pollution prevention elements of their programs, and to consider, to the extent feasible, any additional pollution prevention initiatives that may be appropriate. With DTSC's assistance, the Team is including pollution prevention as a specific element in its review of each BDO's strategic plan.

Since our planning process is an iterative one, the baseline of activities identified in our current Strategic Vision and individual strategic plans will provide a benchmark for increasing our use of this important environmental protection tool, as well as identifying opportunities to use pollution prevention to address multi-media problems. I firmly believe that vigorous implementation of preventive approaches will strengthen Cal/EPA's ability to protect the environment and public health.

Again, thank you for your interest in Cal/EPA and its pollution prevention efforts. For more information on Cal/EPA's strategic planning efforts, please feel free to contact Mr. C. Brian Haddix, Undersecretary of Cal/EPA, at (916) 324-3708.

Sincerely,

Winston H. Hickox

Winston H. Hickox
Agency Secretary

cc: Mr. Steven Monk
Special Assistant
California Environmental Protection Agency
1001 "I" Street, 25th Floor
P.O. Box 2815
Sacramento, California 95812-2815

Mr. Bob Borzelleri
Chief Deputy Director
Department of Toxic Substances Control
1001 "I" Street, 25th Floor
P.O. Box 806
Sacramento, California 95812-0806

cc: Mr. Jim Bennett, Chief
Office of Policy Development
State Water Resources Control Board
1001 "I" Street, 16th Floor
P.O. Box 100
Sacramento, California 95812-0100

Mr. Don Ames
Assistant Chief
Stationary Source Division
Air Resources Board
1001 "I" Street, 6th Floor
P.O. Box 2815
Sacramento, California 95812-2815

Mr. Bill Orr, Manager
Organics and Resources Efficiency Branch
California Integrated Waste Management Board
1001 "I" Street, 13th Floor
P.O. Box 4025
Sacramento, California 95812-4025

Mr. Jim Donald
Senior Toxicologist
Reproductive and Cancer Hazard Assessment Section
Office of Environmental Health Hazard Assessment
1001 "I" Street, 12th Floor
P.O. Box 4010
Sacramento, California 95812-4010

Ms. Nan Gorder
Senior Environmental Research Scientist
Pesticide Management and Licensing Branch
Department of Pesticide Regulations
1001 "I" Street, 3rd Floor
P.O. Box 4015
Sacramento, California 95812-4015

California Pollution Prevention Advisory Committee

Pollutants of Concern Subcommittee
Position Paper

Background

Pollution prevention is an element of the state of California s efforts to improve the state s environment and the health of its population. Pollution prevention is an important aspect of California s environmental protection strategy as it prevents the generation of pollutants rather than relying upon individual permits and regulations to control them once generated. The pollution prevention program for California is administered by the California Environmental Protection Agency s Department of Toxic Substances Control (DTSC). DTSC s primary responsibility is to regulate the generation, shipping, treatment, and storage of hazardous waste. Because of its focus on hazardous waste, DTSC s pollution prevention efforts are targeted mainly at hazardous waste generators, with an emphasis on reducing the volume and toxicity of hazardous waste generated. DTSC s pollution prevention programs focus on individual types of industries or commercial businesses.

Problem Statement

Although DTSC s efforts have been successful in reducing the volume of hazardous waste generated at some individual facilities, it is difficult to determine how successful they have been at reducing releases of pollutants to the environment. Hazardous wastes are tracked from cradle to grave and are highly regulated. While hazardous wastes that are landfilled may eventually migrate into the environment, they are for the most part handled in a manner that results in little environmental release.

On the other hand, pollutants are released directly into the environment every day, particularly into air and surface waters but also to a lesser degree into soil and groundwater via leaking containers or intentional dumping. These regulated and unregulated releases have resulted in the pollution of 509 waterbodies throughout the state and in 99.5 percent of the state s population living in areas that are in nonattainment of air quality standards with 46 percent of these living in areas of extreme nonattainment. Additionally, there are over 16,000 sites with contaminated soils or groundwater in California and 276 species that have become endangered.

Clearly there must be a shift in focus by the state of California as to how it approaches its pollution prevention efforts, with a stronger emphasis on preventing actual releases of pollutants to the environment. To prioritize these efforts, the state should not only look at which industries are producing the most hazardous waste, which is arguably well-contained, but rather should also conduct a thorough examination of its waters, land, and air to determine which pollutants are causing the most damage. Efforts to improve California s natural environment, as well as the health of its residents and workers, can then be targeted at reducing generation and release of the pollutants of most concern. The environmental persistence and toxicity of various pollutants

should be considered in choosing which pollutants to target, as the most persistent pollutants will linger for generations and impact both residents and wildlife throughout the state for many years to come.

In a perfect world, those responsible for environmental protection in California could promote pollution prevention to all industries, businesses, and residents in the state. However, due to the usual constraints of time and money, this is simply not possible. Therefore, pollution prevention efforts must be carefully targeted to bring about the greatest environmental improvement while using the least possible resources. Promoting pollution prevention to a variety of industries and businesses is beneficial and commendable. However, the state should also prioritize which pollutants are causing the most environmental damage, then specifically target sources of releases of these pollutants and work to reduce them. In doing so, the environmental benefit of pollution prevention efforts can be maximized.

Reducing pollutants of concern may involve outreach to specific industries and businesses, but it may also involve outreach to residents and the agricultural, mining, and timber sectors. These often-overlooked sectors are significant sources of some problem pollutants. When an industry-by-industry approach to pollution prevention is taken, some pollutants of concern can be overlooked. A more focused approach is necessary to reduce releases of pollutants such as those that are released from many sources in small amounts.

An additional benefit of targeting specific pollutants for reduction is that the success of pollution prevention efforts can be specifically measured by determining the reduction of a target pollutant in the environment. If no decrease can be measured, then the pollution prevention methods can be modified to improve effectiveness until the desired reductions are seen. This feedback system is essential for developing an efficient, effective program.

One example of a state that does not focus its pollution prevention program on an industry-by-industry basis is Oregon. As water quality is the main pollution concern in Oregon, pollution prevention outreach is done on a watershed basis. The pollutants contaminating an individual watershed are identified by Oregon s Department of Environmental Quality, and businesses that generate the pollutants are targeted for pollution prevention.

Potential Solutions

The optimum method of implementing a pollution prevention strategy that prioritizes outreach efforts to focus on pollutants causing the most harm to the environment and human health is to create a Cal/EPA-level pollution prevention team. Due to DTSC s statutory requirements and authorities, when pollution prevention is done within DTSC there is a required focus on hazardous waste reduction. Performing pollution prevention efforts on a multimedia basis would allow much more freedom in focusing and targeting pollution prevention efforts. Some potential steps to be taken within a multimedia pollution prevention framework are:

1. Pollution prevention outreach should not be conducted solely on an industry-by-industry basis but should also be targeted at reducing the presence of particular harmful pollutants in the environment and in humans.

2. Work with the Cal/EPA boards, departments, and offices (BDOs) and the public to determine which pollutants and/or industries are causing the greatest harm to the environment and human health. Consider environmental persistence and toxicity of pollutants in setting priorities.

3. Expand target audiences of pollution prevention programs to include residents, agriculture, silviculture, mining, and retailers as well as the traditional industry/business audiences. Outreach efforts could include supporting and/or conducting point of purchase programs for consumer products.

4. Establish financial incentives to encourage reduction in usage of products containing pollutants contributing to environmental damage. As an example, surcharges could be imposed on products containing toxic substances.

5. Assist groups dealing with pollutants of concern in specific geographical areas such as watersheds, air basins, groundwater basins, and neighborhoods. This could include a grant program and/or development of a model of how to reduce a pollutant of concern on a geographical basis.

6. Measure actual environmental impact of pollution prevention programs. This could include development of effectiveness measures that are directly related to human health, such as the body burdens in residents of harmful chemicals.

7. Use a multimedia pollution prevention program to fill gaps that are not covered by individual BDOs at Cal/EPA, such as residences and the agricultural, silviculture, and mining sectors. Consider addressing pollutants that are concerns of all the BDOs but may not be the highest priority at any one.

Within DTSC s pollution prevention program there are certain measures that could be taken to increase the program s focus on pollutants causing actual environmental damage. Some of these steps are:

1. Have reduction of a pollutant of concern as an underlying goal. Use this goal to drive choice of target industries for pollution prevention outreach.

2. Put more emphasis on a particular pollutant (or pollutants) during industry outreach. Potential drawbacks are that specific pollutants can not be measured using hazardous waste data and that such outreach would not reach residents.

3. Add a pollutant of concern to DTSC s pollution prevention priorities (in addition to a large industry and a small industry.) Potential drawbacks are that it could be difficult to measure success and that additional resources would be needed.

4. Increase use of data other than hazardous waste data to measure success, such as TRI data, water quality data, and air quality data.

5. Consider focusing resources on pollutants of concern that are hot spots in specific geographical areas such as watersheds, air basins, groundwater basins, and neighborhoods. Make grant funding available for local programs. In funding grants, solicit projects that will reduce pollutants of concern, rather than those that just reduce hazardous waste generation.

6. Add a materials accounting requirement to SB 14, where industries have to report quantities of chemicals used. Potential drawbacks are a high level of effort required, possible strong industry opposition, doesn t focus on pollutants actually causing environmental harm, and legislative action would be needed.

Some of the barriers to implementing these strategies within DTSC are:

1. Funding.
2. Identification/prioritization of pollutants of concern could not be done within DTSC.
3. A large learning curve may be needed to do outreach to industries for which no in-house technical expertise exists at DTSC
4. Staff would have to be trained to use new tools to accomplish desired reductions.
5. Some potential solutions may fall under agencies other than DTSC.

Recommendations

The Pollutants of Concern Subcommittee of the California Pollution Prevention Advisory Committee considered the all of the potential solutions listed in this position paper. Criteria for evaluating the solutions included feasibility, timing, and available resources available. After evaluation, the following recommendations were developed by the Pollutants of Concern Subcommittee:

1. **Establish an agency-level pollution prevention program that incorporates the seven elements listed below.** The Pollution Prevention at Agency Subcommittee of the California Pollution Prevention Advisory Committee has developed a proposal for establishment of an agency-level pollution prevention program that incorporates these seven elements. We support this proposal and strongly recommend its adoption.

   a) Devote pollution prevention resources to reduce pollutants of concern, which are defined as pollutants that have the potential to cause significant harm to the environment and human health, considering such factors as environmental persistence, toxicity, and potential for exposure.

b) Work with the Cal/EPA boards, departments, and offices (BDOs) and the public to determine which pollutants and/or industries are causing the greatest harm to the environment and human health. Include consideration of environmental persistence and toxicity.

c) Expand target audiences of pollution prevention programs to include residents, agriculture, silviculture, mining, and retailers as well as the traditional industry/business audiences. Outreach efforts could include supporting and/or conducting point of purchase programs for consumer products.

d) Establish financial incentives to encourage reduction in usage of products containing pollutants contributing to environmental damage. As an example, surcharges could be imposed on products containing toxic substances.

e) Assist groups dealing with pollutants of concern in specific geographical areas such as watersheds, air basins, groundwater basins, and neighborhoods. This could include a grant program and/or development of a model of how to reduce a pollutant of concern on a geographical basis.

f) Measure actual environmental impact of pollution prevention programs. This could include development of effectiveness measures that are directly related to human health, such as the body burdens in residents of harmful chemicals.

g) Use a multimedia pollution prevention program to fill gaps that are not covered by individual BDOs at Cal/EPA, such as residences and the agricultural, silviculture, and mining sectors. Consider addressing pollutants that are concerns of all the BDOs but may not be the highest priority at any one.

2. **Take the following steps within DTSC s pollution prevention program**:

a) Give more weight to pollutants of concern in setting pollution prevention priorities.

b) In setting pollution prevention priorities, consult with other BDOs about their priorities and pollutants of concern.

c) Increase the use of data other than hazardous waste data to measure success such as TRI data, water quality data, and air quality data.

d) Consider focusing resources, including grants, on pollutants of concern that are hot spots in specific geographical areas such as watersheds, air basins, groundwater basins, and neighborhoods.

Pollution Prevention Advisory Committee

August 23, 2001

Mr. Winston Hickox,
Agency Secretary
California Environmental Protection Agency
1001 I Street
Sacramento, California 95814

Dear Mr. Hickox:

Pollution prevention is a proven, effective and cost-effective approach to solving many of California's pollution problems. Also known as source reduction, pollution prevention is an environmental protection approach that reduces or eliminates pollutants before they are generated, in contrast to more traditional regulations that seek to control pollutants via management strategies, such as treatment and emissions/discharge/disposal standards. This letter contains specific recommendations on how the State can better incorporate pollution prevention into its existing environmental protection program.

For the past two years, the Pollution Prevention Advisory Committee established under SB 1916 of 1998 has been working with the Department of Toxic Substances Control (DTSC) to assist in developing a pollution prevention workplan and to provide input on how DTSC can improve its pollution prevention efforts. DTSC's Pollution Prevention Advisory Committee consists of ten public members and seven *ex officio* members. The public members represent large and small business, local government, environmental and public health advocacy organizations, organized labor, and a publicly owned treatment works. The *ex officio* members represent the boards, departments and office (BDO) within the California Environmental Protection Agency (Cal/EPA). (Attachment 1 is a list of advisory committee members.)

Recommendation

The Pollution Prevention Advisory Committee believes that the effectiveness of DTSC's pollution prevention efforts would be greatly enhanced if they were connected to a multimedia agency-wide pollution prevention program. More importantly, Cal/EPA's effectiveness in protecting the environment would also be improved.

To this end, the public members of the Department of Toxic Substances Control's (DTSC) Pollution Prevention Advisory Committee recommend the establishment of an agency-wide pollution prevention program within Cal/EPA. The fundamental elements of the proposed agency-wide pollution prevention (p2) program within Cal/EPA are:

- a prevention mindset,
- coordination between the BDOs, and
- multi-media, rather than medium-specific, programs and projects.

The recommended program elements are as follows:

- Leadership and accountability
- Priorities/targets for p2 (could be pollutants, industry type, or other environmental problem)
- Programmatic integration of P2 into regulatory and non-regulatory activities agency-wide, including regulations, inspections, grants, loans, education, and outreach materials
- Applied research and demonstration projects
- Training/promoting p2 (within government, business, non-profits, and the public)
- Conducting p2 projects or activities that address priorities (targets)
- Funding

Attachment 2 more fully describes the elements of such a program.

The Pollution Prevention Advisory Committee has been developing this proposal for some time. We would appreciate an opportunity to meet with you to discuss these issues in more detail, and look forward to your response.

Sincerely,

Kelly Moran, Chair
Pollution Prevention Advisory
Committee

Ann Heil, Vice-Chair
Pollution Prevention Advisory
Committee

Attachment 2: Agency-wide Pollution Prevention Program Elements

Cal/EPA Pollution Prevention

Purpose

In June of 2000, the DTSC s Pollution Prevention Advisory Committee (AC) recommended to the California Environmental Protection Agency (Cal/EPA) that it establish an agency-level pollution prevention program . This document outlines the six elements the AC believes would be essential within such a program. Following each program element are bulleted items representing the kinds of activities the AC believes would support implementation of the element.

Fundamental Elements

The fundamental elements of the agency-wide pollution prevention (p2) program at Cal/EPA are:
--prevention mindset,
--coordination, and
--multi-media.

Program Elements and Implementation

(Bulleted items are the elements; the items listed below the bullets are examples of the element.)

1. Leadership and Accountability

- Cal/EPA Secretary establishes leadership
  --supports p2 (words and actions)
  --promotes p2 via appointment process
  --communicates to all Cal/EPA employees that p2 is everyone's job
  --supports agency-wide policy statement on p2
- Cal/EPA creates accountability mechanisms
  --Cal/EPA integrates p2 into strategic vision document, boards, departments and offices (BDOs) strategic plans
  --creates reporting process
  --sets up accountability mechanisms that may include various elements such as consideration in performance reviews or inclusion in training requirements
  --recognizes that there will be different roles for different parts of Cal/EPA and its BDOs
- Cal/EPA provides funding leadership
  --supports increased funding for p2
- Cal/EPA leads state in showing leadership for p2
  --State agencies conduct p2 programs for state-generated pollution
  --Cal-EPA shows leadership by doing a great job itself and supports the efforts of other state agencies to do p2

2. Priorities/targets for p2 (could be pollutants, industry type, or other environmental problem)

- Cal/EPA establishes a process for setting priorities for p2 activities that considers all environmental media, and that is based on existing priority-setting for Cal/EPA BDOs, and that involves the public.
  --In priority setting, target those pollutants, industries and activities that have the potential to cause significant harm to the environment and human health, considering such factors as environmental persistence and toxicity of pollutants, and potential for exposure.
- Cal/EPA establishes a public advisory committee to provide input on its pollution prevention program implementation. This committee should be broadly constituted, and should include public members representative such diverse interests as environmental and public health advocacy groups, large and small business types, labor unions, and other such interested parties. Members representing all the Cal/EPA boards, departments and offices should serve as *ex officio* committee members.

  Pollution Prevention Advisory Committee responsibilities should include providing input for pollution prevention program targeting and design, helping Cal/EPA integrate p2 into BDO workplans, and helping to identify research needs.

3. Programmatic integration of P2 into regulatory and non-regulatory activities agency-wide, including regulations, inspections, grants, loans, education, and outreach materials

- Cal/EPA integrates p2 into strategic vision document, BDO strategic plans
- Cal/EPA operates p2 programs that augment and support the regulatory mandates and promote p2
  --educational materials include p2 (industry and the public, and internal to Cal/EPA)
  --regulatory and compliance assistance strategies emphasize p2
  -- regulatory efforts focus first on preventive approaches
  --p2 information distributed during inspections; facilities referred to p2 assistance providers
  --enforcement cases incorporate p2 in settlements to the maximum extent allowable under enabling legislation
  --permitting processes include p2 information
  --regulations incorporate p2 to the maximum extent allowable under enabling legislation
  --proposed legislation is evaluated for p2 impact (promote legislation that moves p2 forward; ensure barriers to p2 are not inadvertently created)
- Special projects use p2 to address specific issues
- Financial incentives are designed and implemented to encourage reduction in usage of products contributing to pollution, as appropriate
- Cal/EPA oversight of local regulatory programs includes an approach consistent with the state activities (APCDs, POTWs, CUPAs, etc.)
- Cal/EPA reviews/evaluates p2 activities at regular intervals
  --p2 commitments are identified in BDO annual workplans
  -- develops p2 activity and outcome information for reporting
  -- activity measures include such things as

-- # of staff trained in p2
-- % of orders including p2
-- # of p2 referrals from regulatory programs to p2 assistance providers
-- % of permit renewals incorporating p2 requirements

-- outcome measures include such things as
-- # of p2 actions implemented, reductions in chemicals used or released as a result of enforcement orders, SEP implementation and p2 referrals, per cent waste reduction, emissions reductions, etc. attributable to source reduction

- Provide information for program improvement

4. Applied Research and Demonstration Projects

- Cal/EPA develops p2 applied research and demonstration project agenda

--establishes, in conformance with the overall agency p2 priorities (see item 2), a list of projects that can be funded by state funds and non-state funds
--allows the state to seek funds, and to support others activities, that address the agency s p2 priorities
-- keeps multi-year priorities in focus through the priority-setting process established in item 2

- Cal/EPA re-establishes a grant program to support pollution prevention applied research projects and demonstration projects

--DPR IPM grants
--DTSC-funded research on hazardous solvent alternatives
--other

- Cal/EPA develops a p2 center in conjunction with the University of California

--Develop center like Massachusetts Toxics Use Reduction Institute (at the University of Massachusetts, Lowell), which provides research/development, integrates activities with the state p2 agenda, coordinates with related research programs (e.g., workplace safety program at U. Mass.), can do applied research and development in a cost-effective manner, and trains new scientists and engineers in p2
--could build on the UC Toxic Substances Research and Teaching Program
--recognize that setting up such a center could be expensive and would likely require a long-term funding sources
--such a center would promote the state s education priority

- Integrates activities and disseminate results

--Integrate among existing research programs in boards and departments, p2 grant recipients, UC P2 Applied Research/Demonstration Center, and nationwide related programs (National Pollution Prevention Roundtable, Massachusetts Toxics Use Reduction Institute, others)
--Integrate results, disseminate into training/promoting p2 activities (next section)

5. Training/promoting p2 (within government, business, non-profits, and the public)

- Cal/EPA training programs include p2 as appropriate, to support p2 activities

--train staff on how to integrate p2 into routine regulatory activities
-- job mapping and p2 identification training for regulatory staff
-- technical p2 training (often sector-based)
--mandatory and optional staff training includes p2 as appropriate

--mandatory p2 training for Cal/EPA managers as appropriate
--p2 information and training incorporated into permit assistance centers
--Cal/EPA training, education, and seminars, etc. for businesses include p2 as appropriate

- Cal/EPA consistently supports the concept of p2 in publications, case studies, speeches, presentations, and through its own behavior
  --assists local governments and non-profits in using p2 to address pollutants of particular concern in their areas.
  ---could include grants and/or development of a model on how to use p2 to reduce a pollutant on an area (watershed or air basis) basis
  --promotes pollution prevention externally (that is, to entities outside of Cal/EPA such as the public, regulated entities, business assistance organizations, and the like)
  --develops and provides information to manufacturers about less- or non-toxic alternatives to material inputs
  --develops and provides information about less- or non-toxic alternatives to substances used in consumer products that may be of concern

6. Conducting p2 projects or activities that address priorities (targets)

- joint, multi-media p2 projects are developed and conducted across the agency to focus p2 efforts on a particular pollutant (or pollutants) that are of concern across the agency. There are two kinds of potential projects:
  1) Discrete projects designed to address an important environmental problem or issue. The search for the solution must be done in a multimedia way, and must emphasize preventive approaches. This type of project would utilize the BDOs common issues with a specific constituent to develop a sector-based approach to reduce use/emissions, and could include a variety of components, including a challenge program (voluntary), inspection/enforcement p2 activities, and education/training. Such a program could also include, as appropriate, outreach to individuals/consumers, in order to address nonpoint pollution sources. (See Attachment 3, examples of p2 projects or activities for sample project ideas.)
  2) projects or programs are designed to build bridges between medium-specific programs. (See Attachment 3, examples of p2 projects or activities for sample project ideas.)
- target audiences of multi-media p2 projects to include residents, agriculture, and retailers as well as commercial businesses and industry when there is significant potential for pollution prevention among any of these sectors.
- develop outcome measures for projects.
  --include, where appropriate, actual impact of programs on the environment and effectiveness measures directly related to human health such as the body burdens in residents of harmful chemicals.

7. Funding

--Provide adequate funding for the above activities.

Attachment 3: Examples of p2 projects or activities (#6) that address priorities (targets)

1. Joint, multi-media p2 projects could be developed and conducted across the agency. These projects would focus p2 efforts on a particular pollutant (or pollutants) that are of concern across the agency. There are two kinds of potential projects:

1) Discrete projects designed to address an important environmental problem or issue. The search for the solution must be done in a multimedia way, and must emphasize preventive approaches. This type of project would utilize the BDOs common issues with a specific constituent to utilize a sector-based approach to reduce use/emissions, and could include a variety of components, including a challenge program (voluntary), inspection/enforcement p2 activities, and education/training. Such a program could also include, as appropriate, outreach to individuals/consumers, in order to address nonpoint pollution sources.

Examples include:

a. BDOs work together to reduce the use and release of chromium compounds, specifically, chrome VI. While the current focus is on how to clean up existing contamination, especially in water, Cal/EPA should also work to get current users/releasers of chromium compounds to eliminate or reduce use and/or emissions of this compound.

ARB: chromium emissions are of concern to air programs;
SWRCB and RWQCBs: chromium releases cause water quality problems;
DTSC: contaminated properties exist that contain chromium compounds;
OEHHA: hexavalent chromium compounds are carcinogenic and pose other health concerns as well (what are they?)
DPR: (not determined at this time)
IWMB: (not determined at this time)
(could include DHS Occupational Health group re: worker exposure issues)

b. BDOs work together to reduce the use and release of mercury
ARB: mercury releases are of concern from medical waste incinerators
SWRCB and RWQCBs: mercury causes water quality problems
DTSC: mercury appears in hazardous waste, but not in large quantities
OEHHA: contributes information about mercury s health effects, sources of mercury, behavior of mercury in the environment, etc.
DPR: (not determined at this time)
IWMB: p2 project would focus on eliminating mercury-containing equipment from solid waste stream
(would need to work also with Department of Health Services)
(could include DHS Occupational Health re: worker exposure issues)

2) Projects or programs could be developed and designed to build bridges between medium-specific programs. Examples include:

a. BDOs work together to implement a pollution prevention planning program, incorporating and coordinating existing p2 planning requirements, and perhaps adding other elements, such as energy use reduction planning, that could appropriately be incorporated into the planning process. While this would be an

ongoing program, planning efforts could be targeted to specific pollutants as needed.
DTSC: hazardous waste source reduction planning program (SB 14)
ARB: Toxic Hot Spots Risk Reduction Planning
SWRCB and RWQCBs: storm water p2 planning requirements
OEHHA: EPIC (environmental indicators project), p2 program targeting
DPR: IPM program
IWMB: AB 939, AB 75, State Agency Buy Recycled Campaign

Winston H. Hickox
Agency Secretary,
Cal/EPA

State of California
California Environmental Protection Agency

Gray Davis
Governor

Air Resources Board | Department of Pesticide Regulation | Department of Toxic Substances Control
Integrated Waste Management Board | Office of Environmental Health Hazard Assessment | State Water Resources Control Board | Regional Water Quality Control Board

March 8, 2002

Ms. Kelly Moran, Co-chair
SB 1916 Pollution Prevention Advisory Committee
Sierra Club
TDC Environmental
4020 Bayview Avenue
San Mateo, California 94403

Dear Ms. Moran:

Thank you for your correspondence as a public member of the SB 1916 Pollution Prevention Advisory Committee, including recommendations regarding the State's efforts to better incorporate pollution prevention into its existing environmental protection programs. Your letter and attached recommendations, the culmination of many months of discussions among yourselves and the ex officio members of the committee representing each of the California Environmental Protection Agency (Cal/EPA)'s Boards, Departments, and Office (BDOs), were well received.

Since its formation in 1991, Cal/EPA has held pollution prevention as one of its founding principles. Our interest in establishing an agency-level pollution prevention effort represents the fulfillment of a vision brought forth over ten years ago. While a number of programs within Cal/EPA already promote pollution prevention as a preferred method for lessening the impacts of toxic and other chemicals on the environment, I am aware that these efforts cannot yet be regarded as a unified agency-level pollution prevention program.

Your letter suggests that there are three fundamental elements that are essential for an effective agency-wide, comprehensive, multi-media pollution prevention program: (1) a prevention mindset; (2) effective coordination of all environmental programs; and (3) an emphasis on multi-media solutions. We could not agree more and have instructed staff to adopt these elements as guiding principles for their program building efforts.

To these three guiding principles, I suggest a fourth be added that may be implicit in the other three, yet deserves its own emphasis: pollution prevention is most effective not as an isolated initiative, but as a key component in any integrated management system that supports a sustainable environment. Sustainability, which is the cornerstone of Cal/EPA's vision, reflects the interconnectedness of the environment, the economy, and social equity. It is a path forward through which we demonstrate responsibility for our

1001 I Street | Sacramento, CA 95814
phone: 916.445.3846 | fax: 916.445.6401
www.calepa.ca.gov

future legacy. Cal/EPA's Strategic Vision promotes the use of integrated approaches to improving environmental performance as part of its sustainability principles. Pollution prevention is a necessary ingredient in any such integrated approach.

Cal/EPA recently established a Sustainability Steering Committee to promote sustainable management systems both internally and externally. In recognition of the final guiding principle, I have charged the Committee with the task of promoting and coordinating an agency-wide pollution prevention agenda. In this role, the Sustainability Steering Committee will: (a) discuss pollution prevention efforts; (b) identify ways to improve cross-media and cross-program coordination; (c) establish a public participation process; and (d) promote sustainable management systems.

The Sustainability Steering Committee will also take responsibility for the systematic incorporation of many of your specific program proposals into our ongoing implementation efforts. As you offered many significant program components in a number of areas, their agenda will be full for a number of years.

As our program building efforts continue, I will ensure that the SB 1916 Pollution Prevention Advisory Committee is kept informed of our progress. I would like to continue to use my representative to the Committee, Mr. Steven Monk, for this purpose.

I would also like to take advantage of this opportunity to applaud you and the other public members of the committee for your support for pollution prevention techniques and the protection of California's environment. Together we are making a difference.

Sincerely,

Winston H. Hickox

Winston H. Hickox
Agency Secretary

cc: See next page.

Pollution Prevention Advisory Committee

March 8, 2002

Mr. Winston Hickox
Agency Secretary
California Environmental Protection Agency
1001 I Street
Sacramento, California 95814

Dear Mr. Hickox:

Pollution prevention is a proven, effective and cost-effective approach to solving many of California's pollution problems. Also known as source reduction, pollution prevention is an environmental protection approach that reduces or eliminates pollutants before they are generated, in contrast to more traditional regulations that seek to control pollutants via management strategies, such as treatment and regulatory standards. This letter contains specific recommendations on how California can better incorporate pollution prevention into its interactions with agricultural and related businesses ("agribusiness"), including regulatory relationships (*e.g.*, regulation of rural and urban use pesticides), research, and information and educational functions.

For the past two years, the Pollution Prevention Advisory Committee established under SB 1916 of 1998 has been working with the Department of Toxic Substances Control (DTSC) to assist in developing pollution prevention workplans and to provide input on improvement of DTSC's pollution prevention efforts. DTSC's Pollution Prevention Advisory Committee consists of ten public members and seven *ex officio* members. The public members represent large and small businesses, local government, environmental and public health advocacy organizations, organized labor, and a publicly owned treatment works. The *ex officio* members represent the boards, departments and office (BDO) within the California Environmental Protection Agency (Cal/EPA). (Attachment 1 is a list of advisory committee members.)

The agricultural industry and associated industries such as animal husbandry, food processing, and pest management represent major portions of both California's economy and its land use. In addition to their presence in rural areas, they have a considerable presence in urban areas where pesticide application rates (on a per-acre basis) are as high or higher than application rates in rural areas. As these industries play such a significant role in the state they have the potential to have a significant impact on the environment and the health of Californians. Due

to the variety of activities in this sector and the nature of the substances used, this sector can cause unintended negative health and environmental impacts, even when standard practices are followed and pest control products are used legally. Such impacts may be caused by fertilizer use, pesticide use, hazardous materials use, soil management and tilling practices, waste management practices, and from bacterial contamination and nutrients in animal waste. Examples include run-off from dairies and stables; fertilizer- and pesticide-containing run-off from farms, homes, and commercial areas; pesticide drift into neighboring fields, schools, homes, and businesses; persistent herbicide contamination of some compost products; and exposure to pesticides of farm workers, urban workers, urban and farm families, and pesticide applicators.

A subcommittee of the Pollution Prevention Advisory Committee worked for over a year to develop these recommendations. The problem statement and recommendations that are attached to this letter were presented to the full Pollution Prevention Advisory Committee and approved on December 4, 2001. In them, you will find a more detailed description of some of the environmental problems associated with agriculture and with pesticide use (including urban pesticide use), and more detail about the recommendations.

Recommendations

- Recommendation A: Maximize the ability of the pesticide registration process to prevent potential environmental and human health problems associated with pesticide use.

- Recommendation B: Strengthen Cal/EPA and U.S. EPA efforts to promote pesticide alternatives.

- Recommendation C: Expand efforts to promote environmentally sound and sustainable agricultural practices statewide.

- Recommendation D: Strengthen local government capabilities to promote pollution prevention to the agriculture industry.

- Recommendation E: Support and encourage efforts to share information and training opportunities between DPR, the CDFA, and the County Agricultural Commissioners regarding IPM and other biological pest control practices.

- Recommendation F: Determine the needs of the agricultural sector regarding pollution prevention, and create and distribute materials to fill these needs. Anticipated needs include (but are not limited to) information about management of hazardous materials and wastes on farms and sector-specific information on measures to prevent agricultural water pollution. Ideally, materials would be shared for distribution by any of the entities mentioned above, including DPR, CDFA, CIWMB, County Agricultural Commissioners, the University of California, and CUPAs.

The Pollution Prevention Advisory Committee believes that implementation of these recommendations would build on Cal/EPA's existing efforts to improve California's environment. We would appreciate an opportunity to meet with you to discuss these issues in more detail, and look forward to your response.

Sincerely,

Kelly D. Moran, Ph.D., Chair
Pollution Prevention Advisory
Committee

Ann Heil, Vice-Chair
Pollution Prevention Advisory
Committee

Enclosure

cc:
See next page

cc:
Paul Helliker, Director
Department of Pesticide Regulation
1001 I Street
Sacramento, CA 95814

Edwin F. Lowry, Director
Department of Toxic Substances Control
P.O. Box 806
Sacramento, CA 95812-0806

Joan E. Denton, Ph.D., Director
Office of Environmental Health Hazard Assessment
P.O. Box 4010
Sacramento, CA 95812-4010

Mike Kenny, Executive Officer
Air Resources Board
P.O. Box 2815
Sacramento, CA 95812-2815

Mark Leary, Executive Officer
Integrated Waste Management Board
P.O. Box 4025
Sacramento, CA 95812-4025

Celeste Cantu, Executive Director
State Water Resources Control Board
P.O. Box 100
Sacramento, CA 95814

William J. Lyons Jr., Secretary
Department of Food and Agriculture
1220 N Street
Sacramento, CA 95814

Stephen Johnson, Assistant Administrator, Office of Pesticide Programs
7101M U.S. EPA Headquarters
Ariel Rios Building
1200 Pennsylvania Avenue
N. W. Washington, DC 20460

Wayne Nastri, Administrator, Region IX, U.S. EPA
ORA-1 U.S. EPA Region IX
75 Hawthorne Street
San Francisco, CA 94105

Robin Bedell-Waite
Contra Costa Hazardous Materials
4333 Pacheco Boulevard
Martinez, CA 94533

Greg Beach
San Bernardino County Fire Department
385 N. Arrowhead Avenue
San Bernardino, CA 92415-0513

Stewart Crook, Environmental Specialist
Agilent Technologies Inc.
5301 Stevens Creek Boulevard
Santa Clara, CA 95052

Gary Tietavainen
BP
CQC Kiln
1175 Carrack Avenue
Wilmington, CA 90748-1028

Larry Moore
Larry's AutoWorks
1931 Old Middlefield Way
Mountain View, CA 94043

Joy Williams
Environmental Health Coalition
1717 Kettner Boulevard, Suite 100
San Diego, CA 92101

Barbara Brenner, Executive Director
Breast Cancer Action
55 New Montgomery, Suite 323
San Francisco, CA 94105

Don Ames, Assistant Chief
Stationary Source Division
Air Resources Board
P.O. Box 2815
Sacramento, CA 95812-2815

Jim Bennett, Chief
Office of Policy Development
State Water Resources Control Board
P.O. Box 100
Sacramento, CA 9812-100

Bill Orr, Manager
Organics and Resources Efficiency Branch
Integrated Waste Management Board
P.O. Box 4025, MS-12
Sacramento, CA 95812-4025

Jim Donald, Sr. Toxicologist
Reproductive & Cancer Hazard Assessment Section
Office of Environmental Health Hazard Assessment
P.O. Box 4010
Sacramento, CA 95812-4010

Nan Gorder, Sr. Environmental Research Scientist
Pest Management & Licensing Branch
Department of Pesticide Regulation
P.O. Box 4015
Sacramento, CA 95812-4015

Bob Borzelleri, Chief Deputy Director
Department of Toxic Substances Control
P.O. Box 806
Sacramento, CA 95812-0806

Steven Monk, Special Assistant
Office of the Secretary
California Environmental Protection Agency
1001 I Street
Sacramento, California 95814

Glenda Dugan
U.S. EPA Region IX CMD-3
75 Hawthorne Street
San Francisco, CA 94105

Lois Rossi, Director
Special Review and Reregistration Division
U.S.EPA Headquarters 7508C
Ariel Rios Building
1200 Pennsylvania Avenue N. W.
Washington, DC 20460

Denise M. Keehner, Director
Biological and Economic Analysis Division
U. S. EPA Headquarters 7503C
Ariel Rios Building
1200 Pennsylvania Avenue N. W.
Washington, DC 20460

Arthur-Jean B Williams
U.S. EPA Headquarters 7506C
Ariel Rios Building
1200 Pennsylvania Avenue N. W.
Washington, DC 20460

Elizabeth M. Leovey, Acting Director
Environmental Fate and Effects Division
U.S. EPA Headquarters 7507C
Ariel Rios Building
1200 Pennsylvania Avenue N. W.
Washington, DC 20460

Marcia Mulkey, Director, Office of Pesticide Programs, U.S. EPA
U.S. EPA Headquarters 7501C
Ariel Rios Building
1200 Pennsylvania Avenue N. W.
Washington, DC 20460

Tracy Mehan, Assistant Administrator - Office of Water
U.S. EPA Headquarters 4101M
Ariel Rios Building
1200 Pennsylvania Avenue, N. W.
Washington, DC 20460

Michael B. Cook, Director
Office of Wastewater Management
U.S. EPA Headquarters 4201M
Ariel Rios Building
1200 Pennsylvania Avenue, N. W.
Washington, DC 20460

Robert H. Wayland, Director
Office of Wetlands, Oceans, and Watersheds
U.S. EPA Headquarters 4501T
Ariel Rios Building
1200 Pennsylvania Avenue N. W.
Washington, DC 20460

Tom Mumley, State TMDL Coordinator
San Francisco Bay Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

Bill Johnson
San Francisco Bay Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

Kathleen Martyn Goforth, Life Scientist
Clean Water Act Standards & Permits Office
U.S. EPA Region IX (WTR-5)
75 Hawthorne Street
San Francisco, CA 94105

Geoff Brosseau, Executive Director
Bay Area Stormwater Management Agencies Association
1515 Clay Street, Suite 1400
Oakland, CA 94612

Pollution Prevention Advisory Committee
Agribusiness Pollution Prevention
Problem Statement & Recommendations

Problem Statement:

The agriculture industry and associated businesses such as animal husbandry and food processing represent major portions of both California's economy and its land use. As they play such a significant role in the state they have the potential to have a significant effect on the environment and the health of Californians. Due to the variety of activities in this sector and the nature of the substances used, this sector can cause unintended negative health and environmental impacts, even when standard agricultural practices are followed and chemicals are used legally. Such impacts may be caused by fertilizer use, pesticide use, hazardous materials use, and from bacterial contamination and nutrients in animal waste. Examples include run-off from dairies and stables; fertilizer- and pesticide-containing run-off from farms; pesticide drift into neighboring fields, schools, homes, and businesses; persistent herbicide contamination of some compost products; and exposure to pesticides of farm workers, farm families, and pesticide applicators.

The range of environmental performance by the agricultural sector is similar to other industries; that is, there are some outstanding players that are leaders in environmental stewardship as well as others with more average performances and others that do not consider environmental impacts of their various work practices. The California Department of Pesticide Regulation (DPR) has taken a lead role in working with the agricultural sector to reduce the risk of pesticide exposure to humans and the environment, through its various Integrated Pest Management (IPM) programs and through its regulation of pesticide registration, sales, and use. The University of California, through its extension programs and associated farm advisors, has taken a lead role in developing information about environmentally sound agricultural practices for the agricultural community. However, due to funding and staff constraints, both the DPR and the University of California Extension system have not been able to transfer their information about pollution prevention to the agricultural sector as extensively as is desirable. And while the Department of Toxic Substances Control regulates the management and disposal of pesticide wastes, which can include off-spec pesticides and unrinsed pesticide containers, there appears to a be a gap in the marketing of pollution prevention practices to the farming and animal husbandry community regarding reduction in hazardous materials usage and safe disposal.

DPR regulates the deliberate introduction of pesticidal toxicants into the environment. While the pesticide registration process is extensive, it could be improved to minimize environmental and human health problems from pesticides.

As an organizing principle, our view of pollution prevention needs to be broadened to encompass sustainable agricultural practices that result in multiple environmental benefits. These practices include IPM, use of cover crops and compost, better nutrient and irrigation management, improved tillage practices, reuse of water, use of mulch, use of hedgerows, and appropriate crop selection. As a result, Californians will realize greater benefits such as water conservation, decreased soil erosion and sediment loads in

rivers and lakes, improved soil and plant vigor, decreased nutrient loads, disease suppression, reduced need for chemical fertilizers and pesticides, and increased biological diversity. Ultimately, this will ensure the continued economic prosperity of the State's largest industry.

Recommendation A: Maximize the ability of the pesticide registration process to prevent potential environmental and human health problems associated with pesticide use.

a. While current United States Environmental Protection Agency (USEPA) and California Department of Pesticide Regulation (DPR) pesticide registration and reregistration reviews address potential short and long term human health and environmental impacts from pesticides, the review process should be more comprehensive. More detailed review of potential impacts on water quality (particularly surface water), air quality, reuse of organic material, and human health, (especially long-term human health impacts like cancer, changes in genetic structure, birth defects, nerve damage, and immune system breakdown) would strengthen USEPA and California Environmental Protection Agency (Cal/EPA) efforts to prevent environmental and human health problems. Such reviews would also consider an expanded assessment of all proposed sites of use for the pesticide under consideration, particularly urban sites of use. They also should consider the impacts of persistent pesticides on the efficacy of other environmental management practices, like composting. Expanding registration and reregistration review to address these issues in more detail may involve development of new technical methods, implementation of new procedures or approaches for environmental risk assessment, and may require modified or additional legal authority (to require registrants to provide needed information) and staff resources.

b. Ingredients other than the active ingredient ("inert ingredients") in pesticides may be water pollutants, air pollutants, or toxic substances. Such ingredients may also change the environmental fate and effects of the pesticide active ingredient. For example, inert ingredients in formulations that promote pesticide suspension in water also facilitate transport of the pesticide in storm water runoff. While USEPA and DPR do review inert ingredients in pesticide products, expanding that review to address the environmental and potential health effects of inert ingredients of individual pesticide products as those products are registered would strengthen USEPA and Cal/EPA efforts to prevent problems.

c. A pesticide's formulation (delivery mechanism, such as powder, liquid, or flake) may alter the environmental fate and effects of the pesticide active ingredient. For example, pellets that look like seeds to birds increase birds' exposure to the pesticide. While USEPA and DPR do review formulations of pesticide products, expanding that review to address the environmental effects of formulations of individual pesticide products as those products are registered would strengthen USEPA and Cal/EPA efforts to prevent environmental and human health problems.

d. To ensure that DPR maximizes its ability to prevent problems associated with particular pesticides, encourage DPR to structure its registration team such that there is a lead person for each pesticide active ingredient

Recommendation B: Strengthen Cal/EPA and USEPA efforts to promote pesticide alternatives.

a. Encourage USEPA efforts, California state efforts (by DPR, California Department of Food and Agriculture, the University of California IPM program, the University of California Extension, California Integrated Waste Management Board (CIWMB), the State Water Resources Control Board, and Regional Water Quality Control Boards, the Air Resources Board and other appropriate state entities), and local government efforts (by County Agricultural Commissioners, wastewater treatment and storm water runoff management agencies, air districts, and Certified Unified Program Agencies [CUPAs]) and efforts by non-profits to promote integrated pest management (IPM) and to identify and actively promote non-chemical and least-toxic chemical alternatives to pesticides to manage agricultural and urban pest problems.

b. Support and expand DPR's efforts, including the existing DPR grant programs, to develop and promote alternatives to the use of pesticides that have been linked to environmental and human health problems. Such efforts should focus on less toxic and non-toxic alternatives to pesticide use as part of IPM programs.

Recommendation C: Expand efforts to promote environmentally sound and sustainable agricultural practices statewide.

a. DPR, the County Agricultural Commissioners, CIWMB and the University of California (through the Cooperative Extension, Statewide IPM Program, and Sustainable Agriculture Research and Education Program) currently provide information to the agricultural sector on IPM and environmentally sound agricultural practices. However, a lack of funding has limited the extent to which information can be delivered (on these issues and on the broader issues of sustainable agricultural practices) and limited the amount of assistance to the agricultural community to implement these practices. Increased funding to expand these existing efforts is recommended.

b. Sustainable agricultural practices will ensure that California's land resources can be used for future generations. Sustainable agricultural practices should be promoted in conjunction with the CDFA and the University of California. Education and outreach programs should be coordinated to deliver mutually beneficial messages in their efforts to encourage more sustainable agricultural practices. For example, programs can all promote using compost as a soil amendment, which can increase soil organic matter content, reduce moisture loss, suppress weeds, suppress disease in some cases, and increase the presence of beneficial microorganisms.

c. DPR has an existing award program for IPM. This program addresses innovations in pest management, yet an awards program addressing the broad scope of environmentally sound and sustainable agriculture including practices such as runoff control and composting would reward other worthy efforts To encourage more widespread use of these practices and to recognize leaders in this area, a statewide, high profile environmental awards program should be established for the agricultural sector.

d. Encourage University of California and California State University agriculture programs to emphasize pollution prevention information in curricula.

Recommendation D: Strengthen local government capabilities to promote pollution prevention to the agriculture industry.

a. Provide information to CUPAs on pollution prevention, IPM, and sustainable agricultural practices. CUPAs are charged with implementing hazardous waste, hazardous materials, and other environmental programs on a local basis. CUPAs have a potential to be significant providers of information to the agriculture industry if the CUPAs themselves have ready access to such information.

b. Encourage CUPAs to develop relationships with County Agricultural Commissioners. The highly-skilled staff of both CUPA and Agricultural Commissioner organizations have the potential to increase their effectiveness in protecting human health and the environment by sharing information and distributing messages from each other's programs to members of the agricultural sector.

Recommendation E: Support and encourage efforts to share information and training opportunities between DPR, the CDFA, and the County Agricultural Commissioners regarding IPM and other biological pest control practices.

Recommendation F: Determine the needs of the agricultural sector regarding pollution prevention, and create and distribute materials to fill these needs. Anticipated needs include (but are not limited to) information about management of hazardous materials and wastes on farms and sector-specific information on measures to prevent agricultural water pollution. Ideally, materials would be shared for distribution by any of the entities mentioned above, including DPR, CDFA, CIWMB, County Agricultural Commissioners, the University of California, and CUPAs.

DTSC Pollution Prevention Advisory Committee Members
(3/02 current membership)

Public Members		
Name	**Organization**	**Representing**
Robin Bedell-Waite	Contra Costa Hazardous Materials	Local Government
Greg Beach	Cal/CUPA Forum	Local Government
Ann Heil	Los Angeles County Sanitation Districts	Publicly Owned Treatment Works
Stewart Crook	Agilent Technologies, Inc.	Large Business
Vacant		Large Business
Larry Moore	Larry's AutoWorks	Small Business
Vacant		Organized Labor
Vacant		Environmental Advocacy Organization
Kelly Moran	Sierra Club	Environmental Advocacy Organization
Barbara Brenner	Breast Cancer Action	Public Health Advocacy Organization
***Ex Officio* Members**		
Don Ames	Air Resources Board	
Jim Bennett	State Water Resources Control Board	
Bill Orr	Integrated Waste Management Board	
Jim Donald	Office of Environmental Health Hazard Assessment	
Nan Gorder	Department of Pesticide Regulation	
Bob Borzelleri	Department of Toxic Substances Control	
Steven Monk	Office of the Secretary	

DRAFT

Pollution Prevention
Local Government Subcommittee
Report of Recommendations to SRAC

Local government is in a good position to encourage and support pollution prevention activities at business sites. Many things can be done by local governments to facilitate implementation of p2 projects including marketing, on-site assistance, providing reference materials and referrals, training and education, recognizing and rewarding p2 achievements, and generally encourage adoption of p2 within the business.

Two areas of concern can be addressed through p2 activities. These include the reduction of persistent biological toxins from the environment and meeting the complex requirements of the Hazardous Waste Control Law. Both of these are significant concerns in both urban and rural areas and impact not only impaired water bodies, but also all businesses (small, medium, and large) that must navigate through the complicated maze of the hazardous waste control law. Any recommendations made by the SRAC must address these stakeholders.

Local governments have requested assistance in implementing and continuing these efforts. A series of meetings in the fall of 2000 were held to gather input from numerous local government and state agency representatives. The primary need identified through the meetings was the need for funding to support their activities. Other priorities identified included:

1. Increased marketing and public education of p2's importance
2. Increasing the mandate for p2 implementation.
3. Continued technical support by state.
4. Maintaining and improving communication among local and state agencies.

The Local Government Subcommittee is recommending support for funding, but has not determined the best possible source of funding and believes that this is a full committee discussion item. The proposed options include:

1. Grants through funds such as PPIS – DTSC could identify potential funding opportunities and pass through funds to local government agencies. This process could be extended to other state agencies.

2. Recommend that the state legislature adopt funding for DTSC as pass through funding to local governments. Fund distribution would be determined by DTSC through competitive grants.

3. Recommend that the state legislature adopt funding legislation for direct distribution to local governments.

4. Recommend that local governments be allowed to collect fees for P2 activities. Concerns are that some local governments are already conducting p2 programs that have not been specifically

identified as such and fees are being used to support this. The concern is that this discussion may jeopardize this process of funding.

5. Recommend that the state legislature adopt a mil tax on chemicals or a category of chemicals (such as those that result in PBTs). Such a tax would be similar to gasoline or waste oil.

Appendix 2
Pollution Prevention Advisory Committee Meeting Minutes

Department of Toxic Substances Control
Pollution Prevention Advisory Committee Meeting
November 7, 2000

Minutes

The Department of Toxic Substances Control s (DTSC) Pollution Prevention Advisory Committee met at the Sacramento Convention Center on November 7, 2000.

ATTENDANCE

Public Members:

Brian Cox, Humboldt County Environmental Health
Greg Beach, San Bernardino County Fire Dept.; Cal/CUPA Forum
Ann Heil, LA County Sanitation Districts
Stewart Crook, Agilent Technologies, Inc.
James Schrack, BP
Gary Tietavainen, BP
Larry Moore, Larry s Auto Works
Joy Williams, Environmental Health Coalition
Kelly Moran, Sierra Club

Absent:

Barbara Brenner, Breast Cancer Action
Maggie Robbins, California Federation of Labor

Cal/EPA boards, departments and offices (*ex officio* representatives):

Jim Bennett, State Water Resources Control Board
Don Ames, Air Resources Board
Jim Donald, Office of Environmental Health Hazard Assessment
John Sanders, Department of Pesticide Regulation
Bob Borzelleri, Department of Toxic Substances Control
Bob Hoffman, Cal/EPA Office of the Secretary
Paul Gosselin, Department of Pesticide Regulation

DTSC Staff:

Kim Wilhelm, Dave Hartley, Alan Ingham, Kathy Barwick, Marcia Murphy, Tim Ogburn, Ann Blake, David Miller, Leslie Goodbody, Relly Briones, Tyrone Smith, Natalie Marcanio, Maxine Richey

Visitors:

Nan Gorder, Department of Pesticide Regulation
Susan Blackman, Environmental Finance Center, Region IX
Robin Bedell-Waite, Contra Costa Hazardous Materials
Julio S. Guerra, City of Merced

Carolyn Suer, Air Resources Board
Gary Pitzer, Inside Cal/EPA
Jerry Desmond, Jr., Desmond & Desmond (Metal Finishing Assoc. of So. Calif.)
Steve Arita, WSPA
John Katz, USEPA Region IX

KEY OUTCOMES

The following key outcomes for the meeting were identified during the agenda review:

- Obtain Advisory Committee input on proposed profile for Petroleum Refineries Project
- Obtain Advisory Committee understanding of Vehicle Service and Repair Work Plan, and receive input on implementation
- Agree on a strategy for the voluntary program element of the 2002 Work Plan
- Share information on the requirement for establishing a new hazardous waste source reduction goal and options developed
- Discuss options for Cal/EPA P2 program elements and possible recommendations
- Decide on additional members for Advisory Committee

DTSC s Alan Ingham presented the Petroleum Refineries Project status report including a review of the proposed profile criteria. Mr. Ingham requested input on the proposed profile criteria from the Advisory Committee.

The following points were made during the discussion that followed:

- Not all violations end up in orders; the profile should focus on significant violations.
- Regarding NPDES permit: the long discharge list is of great interest to the communities that surround refineries
- Communities are interested in facilities that exceed their effluent limits.
- Concern that too much energy is going into gathering data and not the actual local projects, which will work toward prevention. If the refineries do not step forward to participate in the project, then DTSC should go back and enhance the profile data.
- Include the number of employees as well as how many are unionized.
- Include mapping of offsite consequences would like to see hot spot analyses plotted focusing on cancer causing indicators.
- Focus on the pollution prevention projects; stakeholder relationships should be secondary, a means to an end.
- Include in the profile the refineries community involvement projects or activities that are already in place.
- Include injury and illness data.
- Include which refineries have environmental management systems in place and those that are trying to be ISO certified.

Input from audience with regard to the Petroleum Refining Project:

- It will be best to identify the possible pollution prevention options early on in the project. Is it possible to use SB 14 to do this?

DTSC s Dave Hartley and Tim Ogburn presented the Vehicle Services and Repair Project Work Plan status report and marketing efforts. Mr. Hartley requested input on the project implementation from the Advisory Committee.

The following points were made during the discussion that followed:

- Impressed by the scope laid out, but want to see more specifics with regard to measurements of success.
- Shouldn t actual reductions be direct measurement rather than indirect?
- Highlight that funding sources are needed to see real world reductions
- There are differences in regulatory structures throughout the state. Be sure that handout materials apply to the area where a training session is being held.
- What is being done to market to the CUPA s?
- How many do you want to reach?
- Focus on building an ethic, peer and consumer pressure to comply.
- Commit to specific targets, then you can more effectively measure.
- Try to build measurement into training. (e.g., have attendees send follow-up information).
- Make your information available at the April 2001 automotive trade show for fleets. Set up a booth.
- Include recognition and/or awards programs.
- Promote public acceptance of re-refined oil. Mercedes-Benz is using re-refined oil in its showroom vehicles.
- Reach out to include environmental and community groups in your work plan
- Focus on automotive industry, not general public outreach. Talk with Larry Moore about the effectiveness of using the web to reach small businesses who is actually on the Internet?
- Curriculum just focuses on re-refined oil. There are already curricula that could be useful.
- Sweeping is a good technique to keep metals out of sewers.
- Pull the refillable spray bottle fact sheets until the local problems are resolved so that the program will succeed.
- Train local agency staff to implement and develop a process to ensure they get the information out to local shops and labor.
- Do more than a CUPA demonstration project.
- Partnering is critical small business supports this concept.
- Work plan that is laid out is way more than a two-year project. Be realistic.
- Educating students is important.
- Work with industry to do the awards.
- Re. n-Hexane DTSC needs to put a full force into this and educate owners and employees. Create a pull or need within the industry. Legislation may be necessary.

Input from audience with regard to Vehicle Service and Repair Work Plan:

- Arrange a press event with the Governor; take his car to a green shop for servicing.

- The work of the DTSC regional Senior Hazardous Materials Specialists needs to be included in the Work Plan.
- In addition to working with Shasta College, coordinate with other community colleges to obtain buy-in at the onset.
- Are mechanics coming out of high school programs or community college programs?
- Contact adult education programs where people take classes to learn to change oil and do simple work on cars.
- Partner with ASE for industry awards.
- EPA is talking with National Automobile Association regarding an awards program.

Kim Wilhelm presented information on the voluntary program element of the 2002 Work Plan. This was an informational item. Mr. Wilhelm stated that DTSC received the input of the Committee regarding awards and challenge programs. As the 2002 Work Plan is developed, this input will be incorporated and available at that time for the Committee s review and comment.

Kim Wilhelm presented information on the new source reduction goal. Currently, DTSC is overdue in setting a new goal; however, Mr. Wilhelm stated that it was his decision to delay setting a goal until he had more input from the committee and more experience with the SB 1916 projects. The legislative requirement for the goal precedes SB 1916, so it is important to look at the intent for the goal, in order to make a meaningful recommendation to the legislature. The committee offered these comments:

- Look at environmental indicators.
- Set goals more like AB939, that is, individual business commitments.
- Set goals that would be helpful to DTSC and company environmental managers.
- Set a broad-based goal; one that is not aimed at just one industry.
- Do we want a hazardous waste goal, an environmental release goal, multi-media goal?
- How can the goal be structured to deal with small production high toxicity stream vs.large production low toxicity stream?

Brian Cox presented the Local Government Sub-Committee report. The sub-committee is working on how best to support local government pollution prevention. The group has had two conference calls and also held brainstorming sessions at the recent pollution prevention conference in San Diego. Key items identified include:

- Increased funding
- Media education increase media outreach
- On site assistance
- Marketing campaign
- Green business
- Resource materials

The next conference call will be to discuss funding.

Ann Heil presented the Pollutants of Concern Sub-committee report. The sub-committee focus is on pollutants rather than industry. The group has met once. They discussed the need to focus

on the state s environmental status as a whole, and to target pollutants causing the most problems. The group believes that this approach would tie in well with an agency level pollution prevention program.

Kelly Moran presented the Multi-topic Sub-committee report. The committee is addressing 4 topics, which are 1) agribusiness pollution prevention (including pesticide use); 2) P2 and consumer products (including pesticide use); 3) chemical use reduction; and 4) product stewardship. They have developed a problem statement for each. The group s next step is to prioritize and make simple recommendations for action in each of the 4 topic areas.

Bob Borzelleri and Bill Orr presented the Pollution Prevention at Agency Sub-committee report and led the discussion that followed. The sub-committee has met 8 times via conference call. The fundamental elements for an agency level program are a prevention mind-set, coordination, and a multi-media approach.

Program elements that have been discussed include: leadership and accountability, priorities and targets for P2, process for setting priorities for P2 activities, programmatic integration of P2 into regulatory and non-regulatory activities, and applied research (demonstration projects).

The sub-committee s future discussions include training, conducting pollution prevention projects, funding, seeking Cal/EPA support for concepts, and legislation.

Points raised in the discussion of the P2 at Agency report follow:

- Make the SB1916 committee a part of Cal/EPA.
- Look at the Pollutants of Concern Sub-committee efforts toward focusing pollution prevention on what is happening in the environment.
- Look at measurements as environmental indicators, e.g., streams polluted, hazardous waste sites needing clean-up, air districts out of compliance.
- The full committee needs to discuss measurement as a more global issue.
- The environmental management system must have a review stage. (does this refer to EMSs themselves, or Cal/EPA s EMS project? suspect the latter)
- Need an ongoing legislative function to identify product bans, etc.
- A P2 cultural change is needed, but it must include funding for the BOD s to implement it.
- Many of the recommendations will need a legislative change. Need to do planning around the legislative calendar. Aim for the 2002 session.
- There will be a better chance of success if Advisory Committee members reach out to stakeholder groups for support.
- After all the recommendations are fleshed out, DTSC staff should submit them to Cal/EPA, DTSC and the legislature on behalf of the Advisory Committee to build support.

The audience provided the following input to the P2 at Agency discussion:

- CUPA audits can be used to evaluate P2 activities.

- Advisory Committee should have a liaison with the fee advisory group with regard to funding.
- Rank and file employees moving to agency will be strongly opposed by the unions.
- Don t dismantle DTSC s P2 program; it is the only strong P2 program around.
- Search statutes for existing opportunities for P2 at agency.
- Look at models in other states.

AC RESOLUTION: Advisory Committee voted to direct the sub-committee to continue to move forward to finish their effort to complete the recommendation to the full committee.

Other Actions:

AC RESOLUTION: Committee voted to direct DTSC to transmit the final SB 1916 plan to the legislature.
ACTION ITEM: DTSC to submit (transmit) the final SB 1916 plan to members of the legislature.

AC RESOLUTION: Advisory Committee recommends that Cal/EPA BOD s integrate P2 into their strategic plans.

ACTION ITEM: DTSC staff to draft a letter for chair and vice-chair signatures.

Kathy Barwick led the discussion about additions to the Advisory Committee. After some discussion of possible additions to the committee, the group concluded that there was no current need to change the make up of the committee.

The meeting adjourned at 4:10 p.m.

Submitted by Marcia Murphy

Department of Toxic Substances Control
Pollution Prevention Advisory Committee Meeting
February 13, 2001

Minutes

The Department of Toxic Substances Control s (DTSC) Pollution Prevention Advisory Committee (AC) met at the Berkeley Office of DTSC on February 13, 2001.

ATTENDANCE

Public Members:

Barbara Brenner, Breast Cancer Action
Greg Beach, San Bernardino County Fire Dept.; Cal/CUPA Forum
Ann Heil, LA County Sanitation Districts
Stewart Crook, Agilent Technologies, Inc.
Gary Tietavainen, BP
Larry Moore, Larry s Auto Works
Joy Williams, Environmental Health Coalition
Kelly Moran, Sierra Club

Absent:

Brian Cox, Humboldt County Environmental Health
Maggie Robbins, California Federation of Labor

Cal/EPA boards, departments and offices (*ex officio* representatives):

Jim Bennett, State Water Resources Control Board
Lynn Baker, Air Resources Board
Jim Donald, Office of Environmental Health Hazard Assessment
Nan Gorder, Department of Pesticide Regulation
Bob Borzelleri, Department of Toxic Substances Control
Bob Hoffman and Steven Monk, Cal/EPA Office of the Secretary
Don Van Dyke, California Integrated Waste Management Board

DTSC Staff:

Kim Wilhelm, Alan Ingham, Kathy Barwick, Marcia Murphy, Tim Ogburn, Ann Blake, David Miller, Tyrone Smith, Maxine Richey, Ray Wong

Visitors:

Ceil Scandone, ABAG
Jennifer Krebs, ABAG
Susan Blachman, Environmental Finance Center, Region IX
Robin Bedell-Waite, Contra Costa Hazardous Materials
Leif Magnuson, USEPA Region IX
Henry Clark, West County Toxics Coalition

Michael Kent, Contra Costa County
David Basinger, USEPA Region IX
Mary Blevins, USEPA Region IX
Rick Brausch, Cal/EPA

INTRODUCTIONS

During Introductions, Stewart Crook stated that he would be leaving the AC due to a change in his job responsibilities. He thanked the AC for the opportunity to have worked with everyone and applauded the excellent work accomplished thus far. (Note: Stewart subsequently rescinded his resignation).

KEY OUTCOMES

The following key outcomes for the meeting were identified during the agenda review:

- Receive update on the Petroleum Refineries Project
- Receive update on the Vehicle Service and Repair Work Plan
- Discuss options for Pollutants of Concern and possible recommendations
- Discuss options for Cal/EPA P2 program elements and possible recommendations
- Discuss options and work toward establishing a new hazardous waste source reduction goal for 2000-2005
- Agree on a proposed schedule for development of the 2002 Work Plan
- Receive updates from Local Government and Multi-Topic Subcommittees

<u>Petroleum Refineries Project</u>

DTSC s Alan Ingham presented the Petroleum Refineries Project status report including distribution of the two draft pilot refineries profiles. Alan also distributed the final list of the 17 refineries for which profiles will be prepared under the project.

The profiles for all 17 refineries will form a base for comparison. The profiles will not be a comprehensive record of all information about refineries. However, the goal is for the data to promote questions that will prompt dialog relating to source reduction possibilities.

The process of preparing 2 pilot profiles to test the process proved effective in choosing comparable parameters for the final project. For example, since production quantities are not publicly available, production capacity will instead be used for comparison.

The refineries verified the information gathered from regulatory information and compiled in the pilot profiles. Alan reported that during the verification meeting, Mr. Tom Reyes at TOSCO Refinery stated he was not only impressed by the data collected, but that the profile likely will be useful to facility management as well as to the public.

The AC was very impressed at the volume of data collected and presented to them. Comments on additional information that needed to be incorporated in the final profiles came from AC members Ann Heil, Kelly Moran and Joy Williams. In addition, Henry Clark of the West County Toxics Coalition offered input as well. Their comments reflected that air and water

toxics data also needed to be incorporated into the profile.

Action Item: Alan pledged to go back and identify the publicly available data in these two categories, and then follow up regarding how the data would be incorporated into the profiles. (Note: this action item was completed on March 29, 2001).

Pollutants of Concern Subcommittee Report

As the order of the agenda was rearranged, the next item presented was the Pollutants of Concern Subcommittee Report. Ann Heil presented the report.

The subcommittee looked at pollutants that are problems and brainstormed solutions. Out of this process, the subcommittee developed a paper on the subject with recommendations:

1. Establish an Agency (Cal/EPA) level pollution prevention program.
2. As a contingency plan, look at what can be done within DTSC s regulatory framework for a more multi-media focus.

The subcommittee requested approval from the full AC to finalize the document.
After discussion, a motion was made asking DTSC include the pollutants of concern principle in future program planning. The motion passed unanimously.

P2 at Agency Subcommittee Report

Kelly Moran led the discussion on the final recommendations of the P2 at Agency Subcommittee. After the discussion, suggestions regarding wording on the paper were made. The suggestions were as follows:

1. Add and BDOs strategic plans on page 1, #1., second bullet, first item.
2. Insert the phrase, to the maximum extent allowable under enabling legislation on page 2, #3., second bullet.
3. Replace coordinates with integrates on page 3, #4., 4th bullet.

The committee voted to accept and finalize the amended draft paper. Kelly Moran led a discussion on what the AC should do with the final paper. The options discussed included:

1. Package with a cover letter signed by the public members of the AC to Winston Hickox and the Toxic Committee chairs in the State Senate and Assembly.
2. Send individual letters of support by AC members to the individuals listed in #1.
3. Request to meet with individuals listed in #1.

Observer Input

Members of the audience were given the opportunity to provide input to the AC. Comments included:

- Progress on the refinery profiles is comprehensive.
- Include information on discharges to water, specifically, dioxin
- Communities are concerned about fire and fugitive emissions from refineries.
- Will communities be included in the P2 demonstration projects?
- AC doing great work. Think about energy conservation along with P2.
- Include a map of the state with the locations of the refineries in the final version of the

Petroleum Refineries Project

- USEPA has grant money available up to $200,000 in matching funds for P2 projects.
- CAPs supports P2 at Cal/EPA, but there aren t programs at the other BDO s. DTSC cannot integrate and coordinate with other BDO s when there are no staff allocated for P2. CAPs will not support taking positions from DTSC to put in other BDO s.
- What will the standards/criteria be to prioritize pollutants of concern?

Vehicle Services and Repair Project

Tyrone Smith and Tim Ogburn presented the update on the Vehicle Services and Repair Project. Since October 2000, 9 training sessions for local agencies have been completed. 9 more sessions with places of business are scheduled in the near future. To date, the following have been trained:

- 22 CUPAs
- 179 local agencies
- 145 businesses
- 200 auto repair shop representatives that attended the NAPA Auto Parts conference

Follow up surveys have shown:

- 80% responded to the surveys
- 64% rated the training 4 or better on a scale of 5 (highest) to 1 (lowest)
- 98% rated the training 3 or better

Is the training an appropriate motivator?

- 2 local committees have formed

Future presentations:

- Humboldt and Contra Costa counties have scheduled training sessions for local businesses
- Los Angeles Fire Department s April Conference will include a training session. 500-1000 auto repair facilities are expected to attend.

Special Projects

- Working with California Department of Health Services to get out information about the risks in using products containing nHexane, including peripheral neuropathy.
- Napa Auto Parts:
  - Tim is negotiating with NAPA Auto Parts to develop an addendum to their parts catalogue to include P2 supplies and equipment. NAPA has tentatively agreed to offer 10% discounts to auto repair shops that have received DTSC P2 training.
  - NAPA is also reviewing its product line to identify and remove products that contain n-Hexane.
- Ford:
  - Training is scheduled for Downey Ford on April 18.
  - Ford is in the process of identifying a second dealership in Northern California to participate in its Corporate Statement in support of P2 VSR.
  - Ford s public relations is developing a communications plan in support of this joint program.
- CSAA:
  - AAA of Northern California is reviewing our P2 training program for possible

inclusion in its Approved Auto Repair facility approval criteria. CSAA legal is reviewing the concept and approval is expected.

- Ed Lowry will be making a presentation to Car Care Plus in Sacramento on 2/14/01. The presentation to CSAA s new auto repair facility in Sacramento recognizes CSAA s industry leadership and commitment to the P2 VSR program. The facility will be a model for CSAA affiliated auto repair shops.

- Vendor Directory:
  - The Vendor Directory format has been completed. The database is being populated with vendor information. The first draft of the Directory is expected to be completed by the June AC meeting.

New Source Reduction Goal

As a follow up to a discussion at the last AC meeting, Kim Wilhelm asked the committee to support setting the current source reduction goal at 5%. Currently, DTSC is overdue in setting a new goal. Kim reminded the AC that the legislative requirement for the goal precedes SB 1916, so it is important to look at the intent for the goal, in order to make a meaningful recommendation to the legislature. In light of this, and after a brief discussion, the AC agreed that DTSC should once again set the goal for California industries.

Schedule for 2002 2-year Work Plan

Kathy Barwick presented a proposed schedule through early 2002. Highlights include:

- Subcommittee completes work by 6/01
- Staff completes data analysis by 6/01
- DTSC, with input from AC, makes new 2-year work plan targeting decisions by 8/01
- AC discusses draft 2-year work plan in 11/01
- DTSC makes draft 2-year work plan available to public by 1/02 (statutory deadline)
- DTSC completes final 2-year work plan by 4/02 (statutory deadline)

Subcommittee Reports

Chairs for the Multi-topics Subcommittee and the Local Government Subcommittee provided brief updates.

Next Meeting

The next P2 Advisory Committee Meeting is scheduled for June 7, 2001 at the new Cal/EPA Headquarters, 1001 I Street, Sacramento.

Department of Toxic Substances Control
Pollution Prevention Advisory Committee Meeting
June 7, 2001

Minutes

The Department of Toxic Substances Control s (DTSC) Pollution Prevention Advisory Committee (AC) met at the new Cal/EPA headquarters building in Sacramento on June 7, 2001.

ATTENDANCE

Public Members:

Barbara Brenner, Breast Cancer Action
Greg Beach, San Bernardino County Fire Dept; Cal/CUPA Forum
Ann Heil, LA County Sanitation Districts
Stewart Crook, Agilent Technologies, Inc.
Larry Moore, Larry s Auto Works
Joy Williams, Environmental Health Coalition
Kelly Moran, Sierra Club

Cal/EPA boards, departments and offices (*ex officio* representatives):

Jim Bennett, State Water Resources Control Board
Don Ames, Air Resources Board

Nan Gorder, Department of Pesticide Regulation
Bob Borzelleri, Department of Toxic Substances Control
Steven Monk, Cal/EPA Office of the Secretary
Bill Orr, California Integrated Waste Management Board

Absent:

Gary Tietavainen, BP
Robin Bedell-Waite, Contra Costa County Hazardous Materials
Jim Donald, Office of Environmental Health Hazard Assessment

DTSC Staff:

Ann Blake, Alan Ingham, Kathy Barwick, Marcia Murphy, Tim Ogburn, David Hartley, David Miller, Tyrone Smith, Maxine Richey, Leslie Goodbody, Natalie Marcanio, Narendra Khilnani, Ben Fries, Kim Wilhelm

Visitors:

Jim Allen
Ceil Scandone, ABAG
Susan Blachman, Environmental Finance Center, Region IX
Dave Duncan, Department of Pesticide Regulation
Regina Sarracino, Department of Pesticide Regulation

Bob Elliott, Department of Pesticide Regulation

Introduction
During introductions, Stewart Crook informed the Advisory Committee that Agilent Technologies has achieved ISO 14000 certification. Stewart also distributed Agilent Technologies Environment and Social Responsibility Report 2000.

Bill Orr noted that the Integrated Waste Management Board s WRAP applications are due July 4, 2001. Bill also informed the committee and DTSC staff about INFORM s PBT-free procurement program.

Agenda Review
A revised agenda was distributed. During agenda review, it was noted that one member had to leave at 3 p.m. The order of items in the afternoon was reversed to accommodate her interest in participating in certain discussions.

Key Outcomes
The following key outcomes for the meeting were identified during the agenda review:
- Decision on whether to continue the petroleum refineries project
- Decision on whether to continue the vehicle service & repair project
- Agreement on a short list of potential future DTSC workplan targets
- Understand DTSC responses regarding the SB 1916 AC recommendations
- Take actions on three subcommittee items:
  - Local government — status
  - P2 at Agency — transmittal & recommendations
  - Multi-topics / agribusiness — problem statement & recommendations
- Agree on draft agenda and date for next Advisory Committee meeting

2002-2994 Workplan Discussion
DTSC s Kim Wilhelm presented an approach for developing the 2002-2004 pollution prevention workplan that would extend the existing projects for an additional two years. Kim gave information to support the DTSC proposal that included considerations of
- the additional environmental benefit to be gained from continuing these large and complex projects;
- the need to build on the relationships and technical knowledge developed to date; and
- resource issues within DTSC.

Petroleum Refineries Project DTSC s Alan Ingham presented the Petroleum Refineries Project status report and described what additional benefits would be realized if the project extends for an additional two years. The project is transitioning from the information-gathering stage and will focus now on meeting with the public and the refineries to solicit opportunities for refineries to volunteer for source reduction project implementation. DTSC hopes to have several projects identified by December 2001.

Alan described the benefits of continuing this project through 2004, including increased

opportunities to:

- evaluate source reduction progress and program success;
- provide regulatory assistance to assist in source reduction implementation;
- continue working with the other Cal/EPA entities on multimedia issues;
- prepare case studies and share technical information on source reduction successes; and
- continue DTSC support of stakeholder participation.

Alan noted that DTSC s continued involvement may encourage other refineries to step forward and participate in this voluntary program. He also stated that DTSC is prepared to work with from two to five facilities on source reduction projects. DTSC s Marcia Murphy provided information about DTSC s plans for community outreach in the petroleum refining project.

Specific comments included:

- Questions concerning the staff resource implications;
- Potential environmental justice coordination opportunities with ARB. In addition, it was noted that some newer fence-line monitoring and community access (online) to real-time monitoring data may be available. There are synergy opportunities between some of ARB s priorities and this project;
- Questions about facilitation: is DTSC the honest broker ? Is DTSC the appropriate entity to facilitate the petroleum refineries projects?
- The written information on the project is heavier on the technical information and lighter on community involvement;
- What the agreements between DTSC and the refineries will look like? Good Neighbor Agreements?
- A suggestion that the communities be involved very early on in crafting the scope of the projects to insure consideration of local priority issues;
- A comment that the DOW project, in which early community involvement identified things that DOW didn t think was important;
- A question about whether discussion with refineries had occurred (Alan responded yes, with the Western States Petroleum Association and Gary Tietavainen, who have been supportive of the project); and
- A suggested need for more ex-officio activity to coordinate P2 opportunities;

The Advisory Committee supported the DTSC staff proposal to continue this project through FY 2004. A final comment after this decision was: perhaps the initial project scope was flawed too ambitious.

<u>Vehicle Service & Repair Project</u>

DTSC s Dave Hartley and Tim Ogburn presented updates on the Vehicle Service and Repair project. Training continues, and the project is moving into the next phase, which includes a focus on measuring success, and institutionalizing the source reduction activities within entities with influence over large numbers of vehicle service and repair shops.

Dave and Tim described the benefits of continuing this project through 2004, including increased opportunities to:

- capitalize on partnerships and relationship models developed to date;
- transfer the models to other partners;
- develop and implement an exit strategy that would focus on partners taking over and continuing the project; and
- continue work with the Cal/EPA Border project.

Advisory Committee comments:
- Can the documents be translated to Korean? Does DTSC have Korean simulcast translation capabilities;
- How many franchise businesses were attending the training? This could be a leveraging opportunity;
- The challenge in this industry to change peoples habits;
- Once this information is established at the student level (i.e., in the curricula), it will be self-perpetuating;
- Would like to see more information on evaluation; how to know you are being effective in getting things institutionalized ;
- How are the DTSC pollution prevention staff in the Hazardous Waste Management Program contributing to the projects? (response from Kim Wilhelm: they are working with local programs on measurement projects for the VSR project); and
- We need to better define expectations, need to decide bang for the buck.

In addition, DTSC staff noted that LA County Hazmat is considering integrating VSR project activities and information into its compliance program;

The Advisory Committee elected to support the DTSC staff proposal to continue this project through FY 2004, with the consideration of adding another industry segment to the project. Possible additional industry segments included:
- airports
- auto body shops
- boats
- motorcycles
- auto paint
- radiators
- bicycle shops
- small engine repair
- smog shops
- fleets

<u>Targeting Discussion</u>
Kim Wilhelm introduced this discussion, which focused on identifying potential DTSC pollution prevention targets, including the voluntary program required by SB 1916 and future DTSC industry evaluations under the Hazardous Waste Source Reduction and Management Review Act (a.k.a. SB 14). The Advisory Committee reviewed the industry types and substances reviewed for the last workplan development process, and added several more. A voting process resulted in the following:

- Agribiz (9 votes)
- Airports (7 votes)
- Metal finishers (7 votes)
- Mercury (7 votes)
- Gov t agencies (6 votes)
- Electronics (6 votes)
- PBT-free Procurement (4 votes)
- Primary Metals (4 votes)
- Dentists (4 votes)
- Dry cleaners (4 votes)
- DOD (3 votes)
- Semiconductor (1 vote)
- Small boat repair (1 vote)
- Photo finishers (1 votes)
- Railyards (0 votes)
- Power Utilities (0 votes)
- Print shops (0 votes)
- Restaurants (0 votes)

DSTC will consider the above when selecting targets for the next two-year pollution prevention workplan and in establishing targets for hazardous waste source reduction plan industry studies.

Multi-Topics Subcommittee Report

Kelly Moran led a discussion of the draft problem statement and recommendations for the agribusiness topic. First, Nan Gorder of DPR presented information about DPR s P2 activities, focusing on the Integrated Pest Management (IPM) program, and a description of the different players in the agribusiness field.

Specific comments:

- Question on run-off from farms
- A suggestion: pesticide drift is not mentioned in problem statement. There was a suggestion to add it to the last sentence of the first paragraph.
- Have we had any conversations with Cal/PIRG, Pesticide Action Network, etc.? Public action groups should be consulted on this issue.
- There is a problem with inert ingredients and their potential hazard.
- The problem statement should have more on human health impacts.
- Would like to see more emphasis on sustainable agricultural practices; composting, Integrated Pest Management, nutrient management, water management, etc.
- There are problems with fertilizers and chemicals along for the ride.
- Overall concerns about the problem statement going in the right direction.
- Suggestion: add the precautionary principle.
- There are human health concerns and uncertainties from relying on animal studies.
- Suggestion: the AC should involve the California Department of Food and Agriculture in discussions about agriculture issues.
- Recommendations are NOT intended to say DPR not doing its job; intended to highlight

opportunities.
- There were questions about the CUPAs role with agriculture.

The Advisory Committee felt the problem statement and draft recommendations need further work; therefore, the subcommittee will schedule another meeting to work out some additional issues. Bill Orr and Barbara Brenner will participate in the conference call. The plan is for the subcommittee to hold more discussions, e-mail discussion items to the AC before the next meeting, and come back at the next meeting with a revised problem statement and recommendations.

P2 at Agency Subcommittee Report

Bob Borzelleri reviewed the transmittal letter for the AC s recommendation on establishing an agency-wide pollution prevention program, which was approved at the 2/13/01 advisory committee meeting. The public members of the Advisory Committee approved the transmittal letter with specified editorial changes. The letter was signed by the public members, and will be circulated to Robin Bedell-Waite and Gary Tietavainen for their signatures, prior to forwarding to Cal/EPA Secretary Winston Hickox.

Local Government Subcommittee Report

Greg Beach provided a brief update. Brian Cox was the subcommittee leader. Under his leadership the subcommittee developed a list of possible local program funding sources. Greg also noted that Ed Lowry, DTSC Director, in his response to the Advisory Committee recommendations made in the 2-Year Workplan and Report, committed to supporting local pollution prevention programs. No additional work has been undertaken by the subcommittee.

Review of Responses to Recommendations

Bob Borzelleri walked the Advisory Committee through the responses to the ten recommendations provided by Ed Lowry, DTSC Director.

AC comments:
- The AC might want to revisit some of the recommendations; for example, the one recommending that all state agencies prepare and implement P2 plans. Bob Borzelleri noted that Cal/EPA s Environmental Management Systems (EMS) and sustainability initiatives may serve as an initial effort (limited to Cal/EPA) to respond to this recommendation. He also noted that these activities could provide a catalyst for agency followup on the P2 at agency recommendation.
- Some discussion about Cal/EPA activities around Environmental Management Systems (EMS) and sustainability.
- DTSC is still stuck on the screening criteria (DTSC s P2 program effort and targets must retain some relationship to hazardous waste), and noted that this is a problem for the interests she represents. The P2 at agency effort may address this.

Action item: Ann Heil requested more information regarding the response to recommendation four concerning manifest data on milk runs.

Action item: DTSC was staff was requested to provide AC members with the website address for the Office of Environmental Health Hazard Assessment s Environmental Protection Indicators for California (EPIC) project. This was distributed via email on June 13, 2001 (http://www.oehha.ca.gov/multimedia/epic/).

Observer Input Members of the audience were given the opportunity to provide input to the AC. It was noted that the agribusiness problem statement and recommendations could provide an opportunity to advance the precautionary principle.

Next Meeting

The next P2 Advisory Committee Meeting is scheduled for September 5, 2001 at the DTSC s Berkeley office at 700 Heinz Avenue. Agenda items include:

- petroleum refineries and vehicle service and repair project updates;
- further discussion on the VSR plus concept;
- subcommittee discussion on the problem statement and recommendations for agribusiness pollution prevention;
- the voluntary pollution prevention program; and
- feedback on the pollution prevention at agency letter.

Department of Toxic Substances Control
Pollution Prevention Advisory Committee Meeting
September 5, 2001

Minutes

The Department of Toxic Substances Control s (DTSC) Pollution Prevention Advisory Committee (AC) met at the DTSC s Berkeley office on September 5, 2001.

ATTENDANCE

Public members:

Greg Beach, San Bernardino County Fire Dept; Cal/CUPA Forum
Ann Heil, Los Angeles County Sanitation Districts
Stewart Crook, Agilent Technologies, Inc.
Larry Moore, Larry s AutoWorks
Kelly Moran, Sierra Club
Lisa Wanzor (for Barbara Brenner), Breast Cancer Action
Gary Tietavainen, BP
Robin Bedell-Waite, Contra Costa County Hazardous Materials

Cal/EPA boards, departments and offices (*ex officio* representatives):

Jim Bennett, State Water Resources Control Board
Don Ames, Air Resources Board
Nan Gorder, Department of Pesticide Regulation
Bob Borzelleri, Department of Toxic Substances Control
Steven Monk, Cal/EPA Office of the Secretary
Bill Orr, California Integrated Waste Management Board
Jim Donald, Office of Environmental Health Hazard Assessment

DTSC staff:

Ann Blake, Kathy Barwick, David Hartley, Alan Ingham, David Miller, Marcia Murphy, Tim Ogburn, Kim Wilhelm, Barbara Dickinson, Ray Wong

Visitors

Ceil Scandone, ABAG
Susan Blachman, Environmental Finance Center, Region IX
David Duncan, Department of Pesticide Regulation
Randy Pasek, Kirk Rosenkranz, Carolyn Suer, and Erik White, Air Resources Board
Michael Kent, Contra Costa Health Services
David Jaber, Natural Logic
Mary Blevins and Leif Magnuson, U.S. EPA

Introduction
During introductions, it was noted that the Los Angeles County Sanitation Districts, Ann Heil s organization, was awarded Most Valuable Pollution Prevention Program from the National Pollution Prevention Roundtable. Ann s program was recognized for her work to eliminate the use of lice-control products containing lindane.

Agenda Review
A revised agenda was distributed. It was noted that the discussion about agribusiness pollution prevention was postponed until the next AC meeting.

Key Outcomes
The following key outcomes for the meeting were identified during the agenda review:
- ✓ Affirm critical path and key milestones for next ten months;
- ✓ Understand current status of Vehicle Service and Repair and Petroleum Refinery projects;
- ✓ Concurrence on DTSC proposal for VSR+;
- ✓ Voluntary pollution prevention program: concurrence on basic approach and process; revised list of possible projects;
- ✓ Update on agency response on P2 at agency recommendation; and
- ✓ Draft agenda, date and location for next AC meeting.

Key Milestones for Next Ten Months
DTSC reviewed milestones, including legislative deadlines, from now until the end of the fiscal year. Important deadlines include:
1) draft 2-year pollution prevention workplan to AC for discussion by the next meeting;
2) draft workplan available for public review by 1/20/02;
3) workplan finaled by 4/1/02;
4) decision on the continuance of the AC by 4/15/02; and
5) DTSC begins implementation of the new 2-year workplan by 7/1/02.

Petroleum Refineries Project
DTSC s Alan Ingham presented a computer demonstration of the refinery profiles. Alan noted that staff expect to publish the profiles on the DTSC web site by mid-October. DTSC s Marcia Murphy reviewed the plan to move from phase one to phase two, including soliciting refinery interest, and involving communities in the design and implementation of refinery pollution prevention projects.

AC comments included:
- There was concern regarding the uncertainty from the perspective of the refineries. Will they step forward, given the uncertainty? How can we reduce that uncertainty?
- Note that there may be big projects already under way at a refinery.
- Coordinate with ARB Environmental Justice effort.
- Be specific about goals.
- Need a lay summary for the profiles; watch the jargon.
- Be sensitive re: links and download time for people using modems; try to eliminate extra pages.

- Make sure paper copies of the profiles are available.
- Go to community meetings as opposed to asking them to come to us.
- At the workshops, solicit public comments on specifically what we are looking for regarding input.
- Sell the positive aspects (market to the refineries).
- Be persistent.
- Look for existing issues
- Identify citizen concerns.
- Note that Good Neighbor Agreement is a formal term.
- Adapt/adjust role of DTSC as needed.
- Manage the process/public exposure for refineries.
- Accident prevention, dioxin emissions, and contaminated fish are all P2 issues related to refineries.
- Think about how to present the information. Expand the purpose from just presenting information to including participation and discussion of interests and needs.
- Set dates for the workshops well in advance, at least 30 days.
- Workshop timing: give people time to digest the information before asking for input at meetings; better opportunity for input on the profiles.
- Possible break for refineries on SB 14 plans? (in exchange for volunteers)
- RWQCBs may be using P2 to meet standards. Need to explore.

Vehicle Service and Repair Project (VSR) Update

DTSC s Dave Hartley and Tim Ogburn presented updates on the VSR project. Significant items included:

- Ford P2 program s potential to reach 300 dealerships in California.
- P2 article in Automotive News . This publication reaches 1/3 of the state s shops.
- Triple A Northern California s model P2 shops received an award from the Sacramento Business Environmental Resource Center on September 18, 2001 during P2 week. Potential for Triple A Southern California to follow.
- Community college asset program.
- DTSC moves to franchise the VSR program (videos).
- DTSC working with the Bureau of Automotive Repair.
- Continuing to identify leverage points and opportunities to partner.
- Directory of products and services nearing completion.
- VSR accomplishments to date:
- 28 trainings
- 5 conferences
- VSR information distribution to date:
    - 4,400 VSR toolkits
    - 1,100 VSR videos
- As result of meeting with the Bureau of Automotive Repair, we can submit articles, such as the n-Hexane advisory, that can reach approximately 50,000 repair shops.
- DTSC shared information about the potential environmental benefit expected from the implementation of the pollution prevention strategies promoted in the program.

AC comments included:

- Get a couple of fleets involved; the rest will fall into place.
- Look at school district fleets; LA Unified School District has a good model.
- RWQCB regulations fleets coming into greater regulation.
- Additional integration opportunities w/CIWMB; e.g., re-refined oil usage, tires. Could spec it with government fleets. More options with fleets because of better control over specifications for products.
- Oil companies have large fleets.
- Possible involvement re: Cal/CUPA web site.
- How will the videos be distributed? Can you get the videos on the web/downloadable?
- Positive environmental impact re: industrial laundries.
- Airports could come under fleets .
- Concern with not choosing n-Hexane (need to ensure workplan identifies worker safety and n-Hexane activities identified in workplan).
- Include information on environmentally preferable products; get plugged in with the Department of General Services and purchasing.

VSR plus Proposal

Dave presented DTSC s recommendation to expand the VSR project to include fleets, as its VSR plus recommendation. The AC voted unanimously to support DTSC s recommendation.

Voluntary Pollution Prevention Program

DTSC s Kim Wilhelm presented an approach to developing the voluntary P2 program required by SB 1916 to be included in the 2002-2004 workplan. The proposed approach would defer a final decision on the target for the voluntary program until the spring of 2002. This will allow for increased opportunity for input on the shorter lists of possible projects, and will provide for maximum flexibility. The AC acknowledged the importance of timing in making a final decision about the target and goals of the voluntary program, but also expressed interest in narrowing the possibilities sooner rather than later. Kim also shared a template that describes the basic steps DTSC plans to follow when designing the voluntary program.

The AC discussed the list of possible projects presented by staff and recommended that the voluntary P2 program focus on chemicals of concern, rather than industry sectors. The list of potential chemical groups the AC recommended for consideration include chlorinated compounds, PBTs (persistent, bioaccumulative and toxic chemicals), brominated flame retardants, and perchlorethylene. The AC also endorsed a challenge to inspectors. DTSC will develop further information on these possible projects for discussion at the next AC meeting.

The AC endorsed the voluntary program template, with the addition of state agencies as potential partners. A revised copy is attached to these minutes.

Other advice from the AC concerning the voluntary program:

- Look for multimedia benefits during project selection
- Clearly define the goal(s) of the voluntary program
- Does DTSC envision developing a brand for the voluntary program?

Pollution Prevention at Agency
Steven Monk presented information about Cal/EPA s response to the AC s recommendation that an agency-wide P2 program be established. Steven stated that there will be a cross-media P2 program, with coordination and leadership from the Office of the Secretary. He outlined a draft workplan that develops the new program in three phases:
1) elements not requiring new authority or resources;
2) a future effort to establish new authorities or resources (resources to go to programs, not agency); and
3) development of multi-year projects appropriate for a preventive approach. Steven cited the AC s recommendation to incorporate P2 into strategic planning, and its recommendation to establish an agency-wide program, as motivators for the agency to take these steps.

The priorities for the next six months in this area are:
1) adopt a P2 workplan;
2) establish a P2 steering committee in the agency, and adopt a charter;
3) exhibit state leadership by working with state fleets to adopt the P2 practices promoted in the current DTSC VSR project; and
4) for 2002, elevate P2 week (e.g., large-scale media event, exhibits at Capitol Park, etc.)

In addition, there will be an official response to the AC to its recommendation to establish an agency-wide P2 program, and a roll-out of the program itself.

In response to Steven s presentation, Kelly Moran offered the support of the Advisory Committee to Cal/EPA as it develops its pollution prevention program.

Observer Input
- Hard to reach independent VSR shops. How are you doing this? (Response: by working with the Bureau of Automotive Repair, we can reach even the smallest shops, provided they are legal and registered.)
- Government can lead!
- CUPA outreach

Next Meeting
The next meeting of the DTSC s Pollution Prevention Advisory Committee is scheduled for December 4, 2001 in Sacramento (specific location to be announced). The AC requested that DTSC increase available time for AC discussion by reducing the amount of time dedicated to presentations. To facilitate this, DTSC will send VSR update and data analysis information with the agenda packet (the petroleum project may require some presentation time at the December meeting). Agenda items for the 12/4/01 meeting include:
- VSR and petroleum project discussions, based on pre-meeting distribution of updates;
- P2 at Cal/EPA update;
- Voluntary pollution prevention (report on the 5 top candidates, discussion, next steps);
- Agribusiness pollution prevention subcommittee report;
- Discussion of draft workplan, including hazardous waste data.

Check Out

+ progress in winnowing down the list of possible voluntary program targets
+ Pollution Prevention Week T-shirts
+ excited about the progress on the Vehicle Service and Repair and petroleum refineries projects
+ continued enthusiastic participation and attendance from advisory Committee members
+ doing a good job
Δ need to better clarify when we vote/decide or it s just time to move on

Department of Toxic Substances Control
Pollution Prevention Advisory Committee Meeting
December 4, 2001

Minutes

The Department of Toxic Substances Control s (DTSC) Pollution Prevention Advisory Committee (AC) met at the Sheraton Hotel in Sacramento on December 4, 2001.

ATTENDANCE

Public members:

Greg Beach, San Bernardino County Fire Dept; Cal/CUPA Forum
Ann Heil, Los Angeles County Sanitation Districts
Stewart Crook, Agilent Technologies, Inc.
Larry Moore, Larry s AutoWorks
Kelly Moran, Sierra Club
Barbara Brenner, Breast Cancer Action
Neil Norcross for Gary Tietavainen, BP
Robin Bedell-Waite, Contra Costa County Hazardous Materials

Cal/EPA boards, departments and offices (*ex officio* representatives):

Jim Bennett, State Water Resources Control Board
Don Ames, Air Resources Board
Nan Gorder, Department of Pesticide Regulation
Bob Borzelleri, Department of Toxic Substances Control
Steven Monk, Cal/EPA Office of the Secretary
Bill Orr, California Integrated Waste Management Board
Jim Donald, Office of Environmental Health Hazard Assessment

Absent: Joy Williams, Environmental Health Coalition

DTSC staff:

Ann Blake, David Hartley, Alan Ingham, David Miller, Marcia Murphy, Tim Ogburn, Kim Wilhelm, Barbara Dickinson, Kathy Barwick, Leslie Goodbody, Tyrone Smith, Natalie Marcanio, Bob Boughton

Visitors:

David Duncan and Regina Sarracino, Department of Pesticide Regulation
Steve Arita, Western States Petroleum Association
Cassie Gilson, Kahl/Pownell
Kathy Broderick, Sacramento County Business Environmental Resource Center
Andre DeFontaine, Inside Cal/EPA

Introduction/Check-in

Kathy Barwick noted that both Joy Williams and Gary Tietavainen will be leaving the committee. She clarified that only DTSC s director has the authority to make appointments to the committee.

Agenda Review

Facilitator Laurie McCann reviewed the agenda and proposed outcomes for the day. The following key outcomes for the meeting were identified during the agenda review:

- ✓ Understand current status of Vehicle Service and Repair and Petroleum Refinery projects
- ✓ Voluntary p2 program (report on possible targets, discussion, next steps)
- ✓ P2 at Cal/EPA update
- ✓ Agreement on agribusiness problem statement & recommendation (multi-topics p2 subcommittee)
- ✓ Understand draft p2 workplan; provide DTSC with suggestions, ideas, etc.
- ✓ Draft agenda, date and location for next AC meeting.

2002 — 2004 Workplan and Report Overview

Kim Wilhelm provided an overview of the draft document. Kim noted that, since the publication of the last report/workplan, there has been little progress on research, because DTSC s p2 research program depends on the availability of state funds for grants. Because DTSC has had no resources for its grant program for several years, there is no update in the draft workplan on research. Kim also mentioned that there have been no significant changes in financial issues around pollution prevention since the last report.

Voluntary Pollution Prevention Program

Kim Wilhelm presented ten possible voluntary pollution prevention projects:

- Dry cleaners
- Hospitals (mercury)
- Mercury switch replacement (autos)
- Lead solder phase-out
- Flame retardants (consumer electronics)
- Electronic design/replaceable batteries
- Vapor degreasers
- 33/50 chlorinated solvent users (based on TRI)
- 33/50 lead and lead compounds (based on TRI)
- Plating shops: eliminate use of cyanide

Kim reviewed the considerations pertinent to selecting a program target:

- Low cost
- Potential for hazardous waste reduction
- Types of facilities that would participate
- Potential cross-media impacts
- Potential public health & environmental benefits from the program
- Opportunities for publicity to increase participation
- Opportunity for public recognition

- How to monitor success, how to evaluate program success
- Need for technical support to participants

Kim noted that DTSC dropped one of the AC s recommendation for a potential voluntary program a challenge to hazardous waste inspectors because it doesn t meet the legislative program criteria. However, he stated that DTSC would explore the possibility of initiating a p2 recognition program for inspectors and/or local regulatory programs (e.g., CUPAs).

After a discussion, the Advisory Committee recommended that DTSC focus on a voluntary program for the health care industry. DTSC will make its final decision and develop a plan for the voluntary program for inclusion in the 2002-2004 workplan.

Petroleum Refineries Project Update and Draft Workplan Discussion

DTSC s Alan Ingham reviewed the three project phases. Alan shared with the AC DTSC s decision to refrain from publishing the refinery profiles report developed during Phase 1 of the project, due to concerns about the potential for terrorists to use the information. The AC discussion focused on this new development and whether to continue the project without the use of the profiles. The AC recommended that DTSC proceed with the project, provided that participation by community groups can be assured despite restrictions on the release of the information. Both the AC and DTSC reiterated a commitment to include community involvement in the design and implementation of specific refinery projects that develop. Refinery industry representatives present at the meeting affirmed the petroleum refinery industry s commitment to pollution prevention and willingness to participate in this project.

Vehicle Service and Repair Project (VSR) Update and Draft Workplan Discussion

DTSC s Dave Hartley and Tim Ogburn presented updates on the VSR project. The Advisory Committee provided specific comments on the draft workplan, which will be addressed in the draft that will be distributed for public comment in January.

Other P2 Workplan Elements

Kim Wilhelm reviewed the other elements of DTSC s draft workplan, which includes descriptions of:

- DTSC s work with local governments,
- DTSC s efforts to integrate p2 into regulatory activities,
- Continued P2 AC support,
- DTSC s border program, and
- Hazardous waste and Toxics Release Inventory data.

Pollution Prevention at Agency

Steven Monk presented an update on Cal/EPA s efforts pursuant to the AC s recommendation that an agency-wide p2 program be established. In addition to items related at the September 5, 2001 meeting, Steven mentioned that a statewide interagency pollution prevention committee will be developed and meet at least annually. Finally, Steven expects an official response to the AC s recommendation by January 2002.

Subcommittee Recommendation

Kelly Moran, chair of the multi-topics subcommittee, led a discussion about the draft problem statement and recommendations it has developed on the topic of agribusiness p2. Kelly began by recognizing subcommittee members for their hard work on this difficult topic. Then, Bill Orr briefly reviewed the activities of the Integrated Waste Management Board in this area (e.g., efforts to improve soil vitality, composting demonstrations, etc).

The main topic of discussion was around the Precautionary Principle, which had been included in the problem statement but subsequently removed. The outcome of the discussion was to leave this concept out of the problem statement and have a learning opportunity at the next meeting so that the AC can learn more about the Precautionary Principle. DTSC staff will arrange to have an outside expert provide this opportunity.

There were no other substantive issues. The AC approved the document (after editorial revisions) with one member standing aside. Kelly Moran and Ann Heil, as chair and co-chair of the AC, will sign on behalf of the public members. The document will be addressed to Cal/EPA Secretary Winston Hickox and copied to the directors or executive officers of the other Cal/EPA boards, departments and offices; to the California Department of Food and Agriculture Secretary; and to an appropriate contact at U.S. EPA.

Next Meeting

Kathy Barwick briefly reviewed the legislative schedule pursuant to the 2-year workplan. Deadlines include:

- Draft completed by January 15, 2002
- Draft available to the public for review by January 23, 2002
- Workplan finaled by April 1, 2002
- Decision on whether to continue the existence of the AC by April 15, 2002

The next meeting of the DTSC s Pollution Prevention Advisory Committee is scheduled for March 20, 2002 in DTSC s Berkeley office. Agenda items for the 3/20/02 meeting include:

- Precautionary Principle seminar
- Public comment on the draft 2002-2004 workplan
- Advisory Committee input/discussion on the workplan
- Discussion on the future role of the AC
- Update from Cal/EPA on p2 at agency

Department of Toxic Substances Control
Pollution Prevention Advisory Committee Meeting
March 20, 2002 Minutes

The Department of Toxic Substances Control s (DTSC) Pollution Prevention (P2) Advisory Committee (AC) met at DTSC s Berkeley, CA office on March 20, 2002.

Attendance

Public Members:

Ann Heil, Los Angeles County Sanitation Districts
Stewart Crook, Agilent Technologies
Larry Moore, Larry sAutoWorks
Kelly Moran, Sierra Club
Barbara Brenner, Breast Cancer Action
Neil Norcross, BP
Robin Bedell-Waite, Contra Costa County Hazardous Materials
Greg Beach, San Bernardino Fire Dept; CalCUPA Forum

Cal/EPA boards, departments, and offices (*ex officio* representatives):

Nan Gorder, Department of Pesticide Regulation
Bob Borzelleri, Department of Toxic Substances Control
Steven Monk, Cal/EPA Office of the Secretary
Bill Orr, California Integrated Waste Management Board
Jim Bennett, State Water Resources Control Board
Lynn Baker, Air Resources Board

DTSC staff:

Kathy Barwick, Ann Blake, Barbara Dickinson, Alan Ingham, David Miller, Marcia Murphy, Tim Ogburn, Evelina Rayas, Kim Wilhelm, Ray Wong

Visitors:

Susan Blachman, Ted Schettler, Carolyn Raffensperger

Introduction/Check-In

Facilitator Laurie McCann welcomed AC members and visitors. Kathy Barwick informed the group of Laurie s impending departure from the California Center for Public Dispute Resolution (CCPDR) to assume a new position as Ombudsman at UC Santa Cruz. Her efforts to assist the AC were acknowledged. Ken McGhee, associate mediator with CCPDR, was introduced as the new facilitator. Kim Wilhelm also acknowledged that two DTSC staff members, Marcia Murphy and Ann Blake, would soon be leaving DTSC. Both were recognized for their contributions to DTSC s pollution prevention program.

Agenda Review

Kathy Barwick reviewed the agenda and proposed outcomes for the day.

The following key outcomes for the meeting were identified during the agenda review:

- Understand the precautionary principle
- Receive public comments on draft p2 workplan
- AC members comment on draft p2 workplan (in addition to submitted written comments)
- AC recommendation on the finalization of DTSC s 2002-2004 workplan
- Understand current status of vehicle service & repair and petroleum refinery p2 projects
- Agreement on future P2 Advisory Committee activities
- P2 at Cal/EPA update
- Draft agenda, date and location for next AC meeting

Precautionary Principle Seminar

Ms. Carolyn Raffensperger and Dr. Ted Schettler of the Science and Environmental Health Network provided an overview of the precautionary principle. The history, development, definition, and application of the precautionary principle was discussed. The key elements of the precautionary principle include the following:

1. Threat of harm
2. Lack of scientific certainty
3. Action to prevent harm

These elements must be present to trigger appropriate use of precautionary principle. Key values at the core of the precautionary principle in action are the following:

1. People have a duty to take anticipatory action to prevent harm
2. The burden of proof lies with the proponent, not the public
3. Before using a new technology, process, chemical, or starting a new activity, people have an obligation to evaluate a full range of options
4. Decisions applying the precautionary principle must be open, informed, and democratic, and must include affected parties

AC members had several questions and comments about the precautionary principle. Ms. Raffensperger encouraged AC members to view precautionary principle not as a prescriptive tool, but rather a process that leads to a thorough examination and inquiry and, ultimately better-informed decisions.

AC/Public Comments on DTSC s draft P2 2002-2004 workplan

There were no comments on the draft p2 workplan from the general public. Ms. Barwick reviewed written comments submitted by AC members. AC members expressed widespread support for the draft workplan, particularly concerning the scope of the plan and the section on AC efforts. The major concern expressed was about the petroleum refineries project and its viability in light of restrictions on distributing refinery data profiles imposed due to concerns about terrorism.

Specific comments included:

1. VSR project:
    - When looking at sector-based efforts, include recycling, other program connections, and take these messages out when talking to the industry (even though recycling, not source reduction).

- Pleased re: VSR, beginning to see how the project will result in long-lasting effects; seeing the kinds of things that will embed these strategies into the industry (e.g., ASE certification). Next step: have the Bureau of Auto Repair require this. Putting effort here will make other program elements go faster.

2. Petroleum refineries project:
   - Liked what we read re: the petroleum refineries project. Be sure to emphasize its voluntary nature. It s good to see the numbers.
   - Petroleum project: communicate to communities and the public the lessons learned.
   - Biggest concern is the refineries project. The workplan does not acknowledge the difficulties caused by the decision to not publish the profile. Plan should acknowledge the possibility of failure.
   - Still very concerned about refineries project. Profiles contain public information. Restructure project to reduce risk of terrorism?
3. Data analysis:
   - Table 25, p. 67: how about a project focusing on the dirty dozen?
- P. 54, Figure 8: interesting downward trend.
   - Will DTSC update the manifest data prior to publication? (no)
   - P. 54 Figure 8: lots of wastes declassified. Don t know the quantity. HW variances; e.g., cement kiln dust. A few things have been pulled in, but mostly things got out (of regulation). Not confident that the downward trend is correct. This analysis shows a need for an adequate budget for prevention.
4. Hospitals challenge project:
   - Excited about hospital challenge. Be sure to talk to POTWs (via their organizations). POTWs could partner; send a piggy-back letter. DTSC could provide POTWs with a model letter to send to hospitals.
   - Hg TMDL, strong linkage w/hospitals project.
4. General comments:
   - How will we distribute the results of both projects? Need to communicate to CUPAs, businesses results of the efforts.
   - Quite impressed with the advisory committee s accomplishments.
   - These projects take more than 2 years. What about making them more sustainable?

Kim Wilhelm, addressing concerns about the viability of continuing with the petroleum refineries project, proposed three options for moving forward:

Option 1: Maintain same project (same industry)
Option 2: Keep w/in same industry, design and implement new project
Option 3: Select another industry, another project

Kelly Moran reminded members that any decision taken on the three options would be advisory in nature. Though several members expressed regret over losing the petroleum refineries project, and all the hard work that it entailed, a decision was made to reject Option 1. The AC requested that DTSC staff research alternatives for a new project and return to the AC with a list of options and a DTSC recommendation for a new project, consistent with options 2 or 3.

The AC unanimously recommended the adoption of the draft 02-04 workplan, with the exception of the large business p2 project. DTSC will generate alternative project proposals for presentation to the AC on May 20, 2002, in a conference call meeting to discuss DTSC s recommendation.

Schedule for developing the new large business project:

5/1/02	DTSC recommendation to AC via e-mail
5/20/02	AC conference call to discuss DTSC recommendation
7/1/02	Start work on new large business project

DTSC s 2002/2004 Pollution Prevention Report and Two-Year Workplan will be published without the large business project. An addendum to the workplan will be prepared to detail the new project.

P2 at Agency

Steven Monk provided an update on Cal/EPA s response to the AC s p2 at agency recommendation. A Sustainability Steering Committee, consisting of the directors of the Cal/EPA boards, departments and office, was formed by the Secretary in order to discuss promising P2 efforts, support P2 processes and to work towards developing sustainable systems. An AC member expressed some disappointment that the AC s recommendations had disappeared into the larger Cal/EPA sustainability initiative. Mr. Monk stated that the sustainability committee will function more as a high-level working group and that Secretary Hickox looks favorably on the work of the AC. AC members requested more feedback, on an ongoing basis, on the specific recommendations the AC made to Cal/EPA on an agency-wide p2 program.

Mr. Monk mentioned Cal/EPA s 2001 Accomplishments and Priorities report. DTSC committed to providing copies to AC members.

Future AC activities

Kelly Moran reminded the group that the original mandate for the AC allowed for its discontinuance, with 4/15/02 as a possible end date. The AC can continue after 4/15 if DTSC, with input from AC, so decide. Kim Wilhelm recommended that the AC should continue, for the following reasons:

1. The AC s advice has been valuable;
2. The AC played multi-faceted roles;
3. The AC offered important new perspectives;
4. The AC has been a good sounding board for new ideas;
5. The AC has assisted DTSC s pollution prevention program s overall decision-making process; and
6. The AC has provided valuable technical advice to DTSC.

Kim Wilhelm noted that, while the AC s input is valuable, supporting the AC has been time-consuming for DTSC. He also mentioned that future funding for the AC looks stable (P2 was not one of the programs slated for budget cuts). Kelly Moran also noted that DTSC lacks its own

Board, and thus the AC has helped to fill that advisory role. Based on the added value provided by the AC and the willingness of most members to continue their service, DTSC looks forward to continuing its relationship with the AC.

Kathy Barwick gave an overview of future AC activities and SB 1916 deadlines:

- 9/02 DTSC P2 program accomplishments report to be completed
- 1/03 Select activities for 04/06 workplan
- 5/03 Final decision on 04/06 P2 workplan targets; discuss general approaches
- 10/03 Draft 04/06 workplan review
- 1/04 Public input to draft 04/06 workplan

Next meeting

A conference call of the AC is scheduled to take place on 5/20/02 from 10 a.m. to 12 noon to discuss DTSC s proposal for a new large industry project. The following meeting will be held in Sacramento sometime in January 2003. Proposed agenda items for the 1/03 meeting are to be determined.

Meeting adjourned.

DTSC Pollution Prevention Advisory Committee
Draft Minutes
May 20, 2002 Conference Call
10:00 — 12:00pm

Attendance

Public members:
Robin Bedell-Waite, Contra Costa County Hazardous Materials
Larry Moore, Larry s AutoWorks
Barbara Brenner, Breast Cancer Action
Ann Heil, Los Angeles County Sanitation Districts
Stewart Crook, Agilent Technologies
Neil Norcross, BP
Bill Orr and Roberta Kunisaki, Integrated Waste Management Board
Jim Donald, Office of Environmental Health Hazard Assessment
Jim Bennett, State Water Resources Control Board
Don Ames, Air Resources Control Board
Nan Gorder, Department of Pesticide Regulation

DTSC staff:
Kim Wilhelm, Kathy Barwick, David Miller, Alan Ingham, David Hartley

Facilitator:
Ken McGhee, California Center for Public Dispute Resolution

Absent:
Steven Monk, Cal/EPA Office of the Secretary
Jeff Wong, Department of Toxic Substances Control
Greg Beach, San Bernardino Fire Dept; CalCUPA Forum

Roll Call/Ground Rules/Agenda Review

Pollution Prevention Advisory Committee (AC) members and Department of Toxic Substances Control (DTSC) staff introduced themselves. Ken McGhee provided a brief overview of the conference call format and Kathy Barwick reviewed the agenda.

Expected outcomes:
- Obtain AC input on DTSC s recommendation to select semiconductor industry for SB 1916 large business project;
- Obtain input on DTSC semiconductor industry project approach and workplan elements; and
- Understand next steps.

DTSC Large Business Recommendation Review

Kim Wilhelm briefly explained the process DTSC used in reviewing options for the large business project required under SB 1916 of 1998. He stated that DTSC s recommendation is to select the semi-conductor industry as DTSC s large pollution prevention project for 2002 2004, citing the following reasons:

1. The semiconductor manufacturing industry generates significant quantities of hazardous waste
2. This industry is important part of California economy
3. This industry has a reputation for innovation

Kim told AC members that DTSC will continue to work with the petroleum refineries industry.

Clarifying Questions

DTSC clarified the legislative schedule for the Hazardous Waste Source Reduction and Management Review Act (SB 14) as it pertains to the proposed project approach.

Large Business Project Discussion

A roundtable query revealed consensus with DTSC s recommended selection of the semiconductor industry. AC members expressed support and offered favorable sentiments about working with the industry on this project. AC members also expressed support for and continued interest in DTSC s intent to continue working with the petroleum refining industry. AC member discussion then focused on the proposed project design for semiconductor manufacturers. Specific comments included:

- DTSC should take a multimedia approach with this industry.

- Workshops aren't always a prime motivator for behavior change. Consider other more direct avenues such as industry working groups.

- Need to learn more about motivators/barriers to P2 in the semiconductor industry.

- DTSC must be keenly aware of its first impression when approaching a new industry. Avoid any action, request or the like which could be construed as a compliance and/or enforcement action. Work with semiconductor industry representatives to make certain that the first interaction with them is seen as voluntary and positive.

- DTSC encouraged to sit down, early on in the project design, with known industry leaders and community groups. DTSC should work with the industry on project design.

- Consider conducting a business analysis of the semiconductor industry to determine key data necessary for project design. Include the identification of:

- the number of companies,
- key industry leaders,
- topical industry issues,
- issues for various business segments (competition, survival, quality, etc.),
- major risks, timing of product cycles, and other business factors that will affect a project design,
- factors that motivate behavior change, and
- optimal methods of working with the industry.

  It was noted that the Trade and Commerce Agency may have useful information.

- How many facilities are there? What SIC code will we use. . . we (San Bernardino) have some small plating shops that do some semiconductor work. . . What are you calling semiconductor? If you define too broadly you may have difficulty fulfilling the 80% direct contact requirement in SB 1916.

- Concerns re: role of SB 14 plan review in this project.
  - Is it the right approach?
  - If DTSC makes SB 14 call-in letter the initial contact for some facilities, could be seen as enforcement/compliance focused. Could create difficulty in establishing positive working relationships.
  - 1999 plans are outdated.

- Consider making early contacts with community groups that have been working with semiconductor manufacturers for years (e.g., Silicon Valley Toxics Coalition). Concerned about the late-in-the-process contacts proposed by DTSC.

- Consider reviewing other semiconductor (and possibly similar industry) P2 projects (e.g., projects from other states, U.S. EPA regions, major non-profits, and large municipalities) to determine what worked, what didn't, and to assist with developing an effective strategy for this project to achieve behavior change leading to more P2.

- Work with equipment suppliers. Expensive equipment should be designed with P2 in mind.

- Opportunity to work with a businesses of different sizes and differing levels of P2 accomplishments. Work with leaders, transfer p2 strategies to laggards.

Kim Wilhelm suggested that DTSC could provide this industry a service by looking at old SB 14 plans, convene a workgroup to share good plans, in preparation for the upcoming SB 14 deadline (September 1, 2003). Also, DTSC could look at facility Environmental Management Systems how do they incorporate p2? Share through working group.

Next Steps

Kim Wilhelm outlined DTSC s next steps:

- Get started ASAP with AC suggestions to develop the project framework
- Begin meeting with key industry contacts and interested parties, including industry associations, industry leaders, and interested environmental groups
- Share written plan with AC; get additional feedback

DTSC expects the project to continue evolving during project implementation.

Conference Call Format

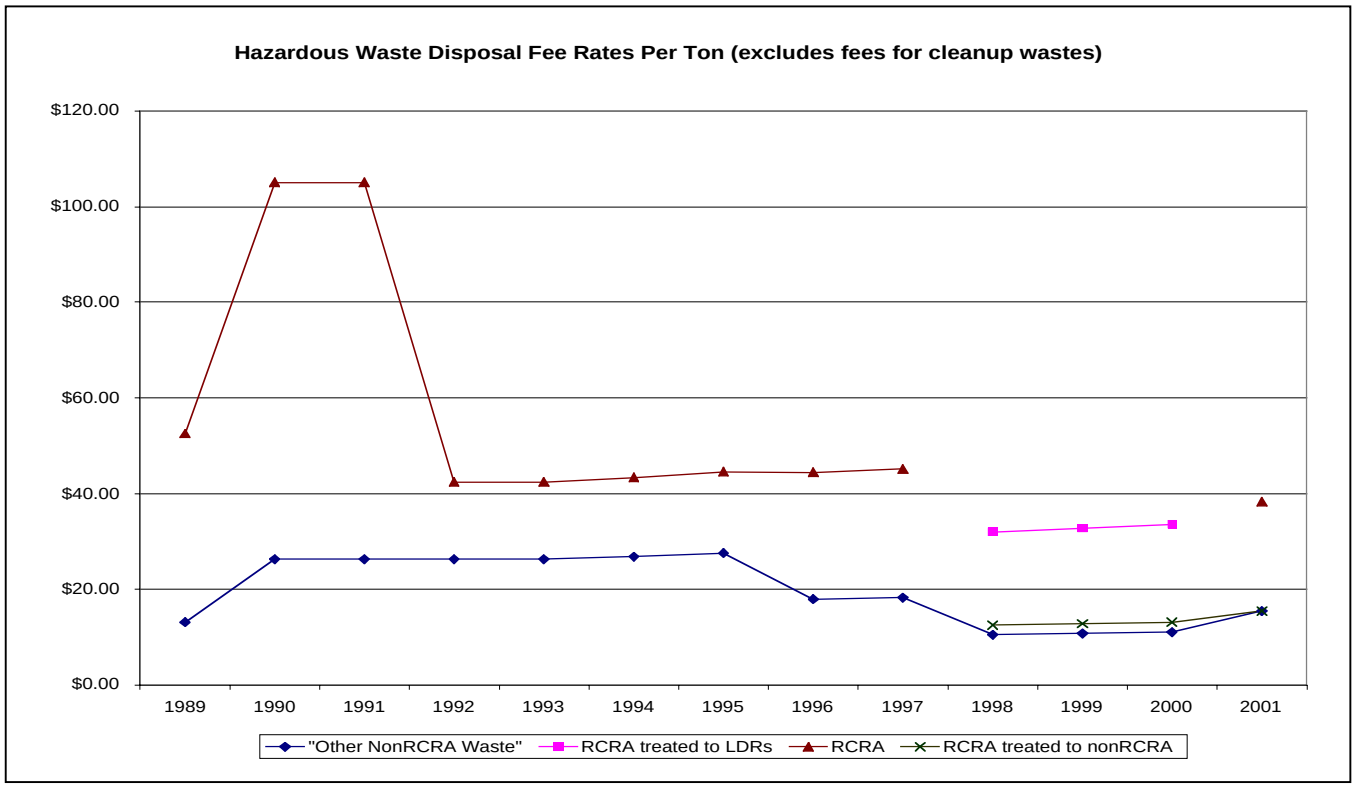
Kim Wilhelm requested feedback from meeting participants regarding the conference call format used for this meeting. A quick roundtable response revealed that AC members liked the meeting format and agreed that it should be considered for future meetings that are similar in scope and complexity (i.e., more limited in scope than a full-day meeting). One observation was that opportunities for public participation may be more limited. Staff observed that there are opportunities to include interested members of the public should it be appropriate in the future to hold additional meetings via conference call.

Next Meeting

The next meeting of DTSC s Pollution Prevention Advisory Committee will be some time in January 2003. Kathy Barwick will select potential dates soon for consideration by AC members. The agenda will focus on initial preparation for the next two-year pollution prevention workplan (2004-2006).

The meeting adjourned at 11:45 a.m.

Appendix 3: Fee Information



Generator fees

California generators are also charged a generator fee, imposed on generators producing five tons or more hazardous waste annually.

Table X: Generator Fees, 2000 and 2001

Generator size	2000 Generator Fees	2001 Generator Fees
< 5 T/yr	$ -0-	$ -0-
5 but < 25 T/yr	$147	$153
25 but < 50 T/yr	$1,178	$1,222
50 but <250 T/yr	$2,945	$3,054
250 but <500 T/yr	$14,725	$15,270
500 but <1,000 T/yr	$29,450	$30,540
1,000 but <2,000 T/yr	$44,175	$45,810
2,000 or more	$58,900	$61,080

Appendix 4: California Waste Codes

California Nonrestricted Wastes

Inorganics

121. Alkaline solution (pH> or = 12.5) with metals (antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, mercury, molybdenum, nickel, selenium, silver, thallium, vanadium, or zinc)
122. Alkaline solution without metals (pH > or = 12.5)
123. Unspecified alkaline solution
131. Aqueous solution (2 < pH < 12.5) containing reactive anions (azide, bromate, chlorate, cyanide, fluoride, hypochlorite, nitrite, perchlorate, and sulfide anions)
132. Aqueous solution with metals (< restricted levels and see 121)
133. Aqueous solution with total organic residues 10 percent or more
134. Aqueous solution with total organic residues less than 10 percent
135. Unspecified aqueous solution
141. Off-specification, aged, or surplus inorganics
151. Asbestos-containing waste
161. FCC waste
162. Other spent catalyst
171. Metal sludge (see 121)
172. Metal dust (see 121) and machining waste
181. Other inorganic solid waste

Organics

211. Halogenated solvents (chloroform, methyl chloride, perchloroethylene, etc.)
212. Oxygenated solvents (acetone, butanol, ethyl acetate, etc.)
213. Hydrocarbon solvents (benzene, hexane, Stoddard, etc.)
214. Unspecified solvent mixture
221. Waste oil and mixed oil
222. Oil/water separation sludge
223. Unspecified oil-containing waste
231. Pesticide rinse water
232. Pesticides and other waste associated with pesticide production
241. Tank bottom waste
251. Still bottoms with halogenated organics
252. Other still bottom waste
261. Polychlorinated biphenyls and material containing PCBs
271. Organic monomer waste (includes unreacted resins)
272. Polymeric resin waste
281. Adhesives
291. Latex waste
311. Pharmaceutical waste
321. Sewage sludge
322. Biological waste other than sewage sludge
331. Off-specification, aged, or surplus organics
341. Organic liquids (nonsolvents with halogens)
342. Organic liquids with metals (see 121)
343. Unspecified organic liquid mixture
351. Organic solids with halogens

352. Other organic solids

Solids

411. Alum and gypsum sludge
421. Lime sludge
431. Phosphate sludge
441. Sulfur sludge
451. Degreasing sludge
461. Paint sludge
471. Paper sludge/pulp
481. Tetraethyl lead sludge
491. Unspecified sludge waste

Miscellaneous

511. Empty pesticide containers 30 gallons or more
512. Other empty containers 30 gallons or more
513. Empty containers less than 30 gallons
521. Drilling mud
531. Chemical toilet waste
541. Photochemicals/photoprocessing waste
551. Laboratory waste chemicals
561. Detergent and soap
571. Fly ash, bottom ash, and retort ash
581. Gas scrubber waste
591. Baghouse waste
611. Contaminated soil from site clean-ups
612. Household wastes
613. Auto-shredder waste

California Restricted Wastes

Restricted wastes cannot be landfilled unless they are treated to certain specifications.

711. Liquids with cyanides > or = 1000 Mg/L
721. Liquids with arsenic > or = 500 Mg/L
722. Liquids with cadmium > or = 100 Mg/L
723. Liquids with chromium (VI) > or = 500 Mg/L
724. Liquids with lead > or = 500 Mg/L
725. Liquids with mercury > or = 20 Mg/L
726. Liquids with nickel > or = 134 Mg/L
727. Liquids with selenium > or = 100 Mg/L
728. Liquids with thallium > or = 130 Mg/L
731. Liquids with polychlorinated biphenyls > or = 50 Mg/L
741. Liquids with halogenated organic compounds > or = 1000 Mg/L
751. Solids or sludges with halogenated organic compounds > or = 1000 mg/Kg
791. Liquids with pH < or = 2
792. Liquids with pH < or = 2 with metals
801. Waste potentially containing dioxins

Appendix 5: Wastes Excluded from Hazardous Waste Designation Between 1993 and 1998

RCRA WASTE STREAMS:
debris 261.3, 40 CFR
recovered oil from petroleum refining, exploration and production 261.4(a)(12)
excluded scrap metal 261.4 (a)(13)
shredded circuit boards (14)
condensates from kraft mill steam strippers (15)
secondary materials from the primary mineral processing industry (16)
used oil refining distillation bottoms 261.4(b)(14)
residues of waste in empty containers 261.7(a)(1)
universal wastes (batteries, pesticides, mercury thermostats, HH and conditionally exempt small qty generator waste) 261.9
residues derived from the burning or processing of hazardous waste in an industrial furnace 266.112
military munitions 266.202

NON RCRA WASTE STREAMS:
intermediate manufacturing process streams 25124(c)(1)
acetic acid 25145(b)(2)(B)(i)
aluminum chloride (ii)
ammonium bromide (iii)
ammonium sulfate
anisole
boric acid
calcium fluoride
calcium formate
calcium propionate
cesium chloride
magnesium chloride
potassium chloride
sodium bicarbonate
sodium borate decahydrate
sodium carbonate
sodium chloride
sodium iodide
sodium tetraborate
oils commonly used as food flavorings (xix)
wastes exceeding a TTLC 25141.5(b)(3)(A) and (B)
wastes from the extraction, beneficiation, and processing of ores and minerals 25143.1(b)(1)
treated wood waste 25143.1.5
cementitious material 25143.8(a)
debris contaminated with petroleum 25143.12
wastes containing silver 25143.13
dry cell batteries 25216
human surgery specimens or tissue 117635 Health and Safety Code
pharmaceuticals 11747 Health and Safety Code
pulping liquors 66261.4(a)(4)
secondary materials (a)(5)

infectious wastes (b)(1)
used oil re-refining distillation bottoms (b)(3)
used chlorofluorocarbon refrigerants (b)(4)

Appendix 6: TRI Reporting Categories

Air Releases
Total releases to air include all TRI chemicals emitted by a plant from both its stack(s) as well "fugitive" sources (such as leaking valves).

Stack Air Releases
Releases to air occur through confined air streams such as stacks, vents, ducts or pipes. These are also called point source releases.

Fugitive Air Releases
This category includes releases to air that do not occur through a confined air stream, including equipment leaks, evaporative losses from surface impoundments and spills, and releases from building ventilation systems. These releases are also called releases from non-point sources.

Water Releases
Releases to water include discharges to streams, rivers, lakes, oceans and other bodies of water (but not ground water). This includes releases from both point sources, such as industrial discharge pipes, and non-point sources, such as stormwater runoff, but not releases to sewers or other off-site wastewater treatment facilities.

Land Releases
Land releases include all the chemicals disposed on land within the boundaries of the reporting facility, and can include any of the following types of on-site disposal:

RCRA Subtitle C Landfills
This category includes wastes buried on-site in landfills regulated by RCRA Subtitle C.

Other On-site Landfills
This category includes wastes buried on-site in landfills that are not regulated by RCRA.

Land Treatment/Application Farming
This category includes wastes that are applied or incorporated into soil.

Surface Impoundments
Surface impoundments are uncovered holding ponds used to volatilize (evaporate wastes into the surrounding atmosphere) or settle waste materials.

Other Land Disposal
This category includes other forms of land disposal, including accidental spills or leaks.

Underground Injection

Underground injection releases fluids into a subsurface well for the purpose of waste disposal. Wastes containing TRI chemicals are injected into either Class I wells or Class V wells.

Other Injection Wells include Class II, III, and IV wells.

Class I Injection Wells are industrial, municipal, and manufacturing wells injecting liquid wastes into deep, confined, and isolated formations below potable water supplies.

Class II oil- and gas-related wells re-injection of produced fluids for disposal, enhanced recovery of oil, or hydrocarbon storage.

Class III wells are associated with the solution mining of minerals.

Class IV wells include the injection of hazardous or radioactive fluids directly or indirectly into underground sources of drinking water (USDW), only if the injection is part of an authorized CERCLA/RCRA clean-up operation.

Class V wells are generally used to inject non-hazardous wastes into or above an underground source of drinking water. Class V wells include all types of injection wells that do not fall under I-IV. They are generally shallow drainage wells, such as floor drains connected to dry wells or drain fields.

Offsite Transfers

TRI also tracks off-site transfers to various types of facilities such as Publicly Owned Treatment Works (municipal sewage treatment plants), treatment and disposal facilities, as well as recycling and energy recovery facilities.

Publicly Owned Treatment Works (POTW)

A POTW is a wastewater treatment facility that is owned by a state or municipality. Wastewaters from facilities reporting under TRI are transferred through pipes or sewers to a POTW. Some chemicals, such as metals, may be removed, but are not destroyed and may be disposed of in landfills or discharged to receiving waters; transfers of metals and metal compounds to POTWs are categorized as off-site releases.

Treatment and Disposal

Toxic chemicals in wastes that are transferred off-site may be treated through a variety of methods, including biological treatment, neutralization, incineration, and physical separation. These methods typically result in varying degrees of destruction of the toxic chemicals. Toxic chemicals in wastes that are transferred off-site for disposal generally are released to land at an off-site facility or are injected underground.

Recycling and Energy Recovery

Toxic chemicals in wastes sent off-site for the purposes of recycling are generally recovered by a variety of recycling methods, including solvent recovery and metals recovery. Toxic chemicals in wastes sent off-site for purposes of energy recovery are combusted off-site in industrial furnaces (including kilns) or boilers that generate heat or energy for use at that location. Both of these management methods (recycling and energy recovery) are considered to be recycling within the TRI data system. Incineration is not considered to be energy recovery and is therefore not included within the recycling category.